

第6章：多次元超立体魔方陣の研究-II：摂田 寛二

第4節：六次元超立体二方陣の構成と展開：Part 2

0. 今節では、六次元超立体二方陣の新しい構成法を提案したい。内容が古い記事の「改訂」の趣旨を超えると思うので、新たに別の節を立てて説明することにしよう。

今までの構成法には、私自身も実はいささか不満を抱いていた。六次元二方陣に与える条件式の立て方が、自分でもわかりにくかった。結局あれこれと立て過ぎて、そのためにどうしても「大基本解」ばかりを作る結果に終わってしまった。…

もっと自由に何でも作れるような条件式の与え方は、はたして無いものだろうか？
例えば、正方連結型完全八方陣 368640 個を直に取り出すことができるような…。

1. あらためて基本図をしげしげと観察していて、あるアイデアが浮かんだ。
目的方陣の「逆関数を解く」要領で、六次元二方陣に条件式を与えてみてはどうか。
次の基本図を見てほしい。一番下の展開図を前と少し変えてある。

[六次元二方陣・三次元四方陣・二次元八方陣の相関基本図]

<pre> 1---- 2 3---- 4 33----34 35----36 17---+18 19---+20 49---+50 51---+52 5-- 6 7-- 8 37-- 38 39-- 40 21---22 23---24 53---54 55---56 9----10 11----12 41----42 43----44 25---+26 27---+28 57---+58 59---+60 13-- 14 15-- 16 45-- 46 47-- 48 29---30 31---32 61---62 63---64 </pre>	<p>古典的表記/</p> <pre> 1----- 2 3----- 4 17-----+18 19-----+20 33-----+34 35-----+36 49-----+50 51-----+52 5-- --- --- 6 7-- --- --- 8 21-- --- --- 22 23-- --- --- 24 37-- -----38 39-- -----40 53-----54 55-----56 9-----10 11-----12 25-----+26 27-----+28 41-----+42 43-----+44 57-----+58 59-----+60 13-- --- --- 14 15-- --- --- 16 29-- --- --- 30 31-- --- --- 32 45-- -----46 47-- -----48 61-----62 63-----64 </pre>	<p>/二進法表記</p> <pre> 000000---000001 000010 000011 010000---+010001 010010 010011 100000---+100001 100010 100011 110000---+110001 110010 110011 000100- -000101 000110 000111 010100- -010101 010110 010111 100100---100101 100110 100111 110100---110101 110110 110111 001000 001001 001010 001011 011000 011001 011010 011011 101000 101001 101010 101011 111000 111001 111010 111011 001100 001101 001110 001111 011100 011101 011110 011111 101100 101101 101110 101111 111100 111101 111110 111111 </pre>
<pre> 1----- 2 3----- 4 17-----+18 19-----+20 5-- 33=== 6=+34 7-- 35=== 8=+36 21- 49===22+50 23- 51===24+52 9--37= 10--38 11--39= -12--40 25--53===+26--54 27--55===+28--56 13- 41===14+42 15- 43===16+44 29- 57===30+58 31- 59===32+60 45- -----46 47- -----48 61-----62 63-----64 </pre>	<p>/立体四方陣</p> <pre> 1 2 3 4 25 26 27 28 5 6 7 8 29 30 31 32 9 10 11 12 17 18 19 20 13 14 15 16 21 22 23 24 51 52 49 50 43 44 41 42 55 56 53 54 47 48 45 46 59 60 57 58 35 36 33 34 63 64 61 62 39 40 37 38 </pre>	<p>/正方形八方陣</p> <pre> 1 2 3 4 25 26 27 28 5 6 7 8 29 30 31 32 39 40 37 38 63 64 61 62 35 36 33 34 59 60 57 58 51 52 49 50 43 44 41 42 55 56 53 54 47 48 45 46 21 22 23 24 13 14 15 16 17 18 19 20 9 10 11 12 </pre>

[正方連結型完全八方陣用] [正方連結型完全八方陣用2]

例えば、正方連結型完全八方陣を作る場合、上図一番下の真中の図を出発点とする。それに対して、次のような条件式群を定義として与えてみたらどうだろうか。

[基本図] [定義条件式]

1	2	3	4	25	26	27	28	1
5	6	7	8	29	30	31	32	5
9	10	11	12	17	18	19	20	9
13	14	15	16	21	22	23	24	13
51	52	49	50	43	44	41	42	51
55	56	53	54	47	48	45	46	55
59	60	57	58	35	36	33	34	59
63	64	61	62	39	40	37	38	63
1	2	3	4	25	26	27	28	1

** 正方連結条件式: S=130; **

```

n1+n2+n5+n6=S ... c1; n2+n3+n6+n7=S ... c2;
n3+n4+n7+n8=S ... c3; n4+n25+n8+n29=S ... c4;
n25+n26+n29+n30=S ... c5; n26+n27+n30+n31=S ... c6;
n27+n28+n31+n32=S ... c7; n28+n1+n32+n5=S ... c8;
n5+n6+n9+n10=S ... c9; n6+n7+n10+n11=S ... c10;
n7+n8+n11+n12=S ... c11; n8+n29+n12+n17=S ... c12;
n29+n30+n17+n18=S ... c13; n30+n31+n18+n19=S ... c14;
n31+n32+n19+n20=S ... c15; n32+n5+n20+n9=S ... c16;
n9+n10+n13+n14=S ... c17; n10+n11+n14+n15=S ... c18;
n11+n12+n15+n16=S ... c19; n12+n17+n16+n21=S ... c20;
n17+n18+n21+n22=S ... c21; n18+n19+n22+n23=S ... c22;
n19+n20+n23+n24=S ... c23; n20+n9+n24+n13=S ... c24;
n13+n14+n51+n52=S ... c25; n14+n15+n52+n49=S ... c26;
n15+n16+n49+n50=S ... c27; n16+n21+n50+n43=S ... c28;
n21+n22+n43+n44=S ... c29; n22+n23+n44+n41=S ... c30;
n23+n24+n41+n42=S ... c31; n24+n13+n42+n51=S ... c32;
n51+n52+n55+n56=S ... c33; n52+n49+n56+n53=S ... c34;
n49+n50+n53+n54=S ... c35; n50+n43+n54+n47=S ... c36;
n44+n41+n48+n45=S ... c38; n41+n42+n45+n46=S ... c39;
n55+n56+n59+n60=S ... c41; n56+n53+n60+n57=S ... c42;
n54+n47+n58+n35=S ... c44; n47+n48+n35+n36=S ... c45;
n45+n46+n33+n34=S ... c47; n46+n55+n34+n59=S ... c48;
n60+n57+n64+n61=S ... c50; n57+n58+n61+n62=S ... c51;
n35+n36+n39+n40=S ... c53; n36+n33+n40+n37=S ... c54;
n34+n59+n38+n63=S ... c56; n63+n64+n1+n2=S ... c57;
n61+n62+n3+n4=S ... c59; n62+n39+n4+n25=S ... c60;
n40+n37+n26+n27=S ... c62; n37+n38+n27+n28=S ... c63;
n43+n44+n47+n48=S ... c37;
n42+n51+n46+n55=S ... c40;
n53+n54+n57+n58=S ... c43;
n48+n45+n36+n33=S ... c46;
n59+n60+n63+n64=S ... c49;
n58+n35+n62+n39=S ... c52;
n33+n34+n37+n38=S ... c55;
n64+n61+n2+n3=S ... c58;
n39+n40+n25+n26=S ... c61;
n38+n63+n28+n1=S ... c64;

```

** 完全型補数の条件式: CC=65; **

```

n1+n43=n2+n44=n3+n41=n4+n42=n5+n47=n6+n48=n7+n45=n8+n46=
n9+n35=n10+n36=n11+n33=n12+n34=n13+n39=n14+n40=n15+n37=n16+n38=
n17+n59=n18+n60=n19+n57=n20+n58=n21+n63=n22+n64=n23+n61=n24+n62=
n25+n51=n26+n52=n27+n49=n28+n50=n29+n55=n30+n56=n31+n53=n32+n54=CC;

```

** 基本条件式: LSM=260; **

```

n1+n2+n3+n4+n25+n26+n27+n28=LSM ... row;
n1+n5+n9+n13+n51+n55+n59+n63=LSM ... clm;
n1+n6+n11+n16+n43+n48+n33+n38=LSM ... pd;

```

これを解けば、六次元二方陣を解いたと同じことになるはずだ。目的方陣の正方連結型完全八方陣も、上図の通りのスタイルで出力すれば、直に解を得られるのではないか？

次のようなプログラムを組んでみた。最小構成のものを以下に示そう。

```

/** Make the 6-dimensional Extra-Cubic Magic Objects of Order 2 and **
/** Transform them into 2D 'Composite & Complete' Magic Squares 8x8 **
/** File: 'ECO26CC88.c' Dictated by Kanji Setsuda in 2005; **
/** and on Sep. 3, 2014 with MacOSX 10.9.4 and Xcode 5.1.1 **
//
#include <stdio.h>
//
/** Variables *
long int cnt;
short cnt2, cnt3;
short CC, SSM, LSM;
short nm[65], flg[65];
//
/** Sub-Routines *
void stp01(void), stp02(void), stp03(void), stp04(void), stp05(void);
void stp06(void), stp07(void), stp08(void), stp09(void), stp10(void);
void stp11(void), stp12(void), stp13(void), stp14(void), stp15(void);
void stp16(void), stp17(void), stp18(void), stp19(void), stp20(void);
void stp21(void), stp22(void), stp23(void), stp24(void), stp25(void);

```

```

void stp26(void), stp27(void), stp28(void), stp29(void), stp30(void);
void stp31(void), stp32(void), stp33(void);
void ans26print(void), pr1pat26(void), pr2pat26(void);
//
/** Main Program *
int main(){
short n;
printf("\n");
printf("** Make the 6-Dimensional Extra-Cubic Magic Objects of Order 2\n");
printf("    and Transform each of them into 2 types of Magic Objects:\n");
printf("        3D MC444, 2D 'C&C' Type of Magic Squares of Order 8; **\n");
printf("        [Abstract List of Standard Solutions in compact style]\n");
printf("\n");
for(n=0;n<65;n++){nm[n]=0; flg[n]=0;}
CC=65; SSM=130; LSM=260; cnt=0; cnt3=0;
stp01();          /** Begin the Calculation *
printf(" [Count = %ld] OK!\n",cnt);
printf("\n");
printf("** Calculated and Listed by Kanji Setsuda on\n");
printf("    Sep. 3, 2014 with MacOSX 10.9.4 and Xcode 5.1.1 **\n");
printf("\n");
return 0;
}
//
/** Begin the Search *
/** Set n1 & n43 *
void stp01(){
short a,b;
for(a=1;a<33;a++){b=CC-a;
if((flg[a]==0)&&(flg[b]==0)){cnt2=0;
nm[1]=a; nm[43]=b;
flg[a]=1; flg[b]=1;
stp02();
flg[b]=0; flg[a]=0;}
}
}
/** Set n2 & n44 *
void stp02(){
short a,b;
for(a=64;a>0;a--){b=CC-a;
if((flg[a]==0)&&(flg[b]==0)){if(nm[1]==1){cnt2=0;}
nm[2]=a; nm[44]=b;
flg[a]=1; flg[b]=1;
stp03();
flg[b]=0; flg[a]=0;}
}
}
/** Set n5(<n2) & n47 *
void stp03(){
short a,b;
for(a=nm[2]-1;a>0;a--){b=CC-a;
if((flg[a]==0)&&(flg[b]==0)){
nm[5]=a; nm[47]=b;
flg[a]=1; flg[b]=1;
stp04();
flg[b]=0; flg[a]=0;}
}
}
/** Set n6=SSM-n1-n2-n5 & n48 *
void stp04(){
short a,b;
a=SSM-nm[1]-nm[2]-nm[5];
b=SSM-nm[43]-nm[44]-nm[47];
if((0<a)&&(a<65)&&(a+b==CC)){
if((flg[a]==0)&&(flg[b]==0)){
nm[6]=a; nm[48]=b;

```

```

        flg[a]=1; flg[b]=1;
        stp05();
        flg[b]=0; flg[a]=0;}}
}
/** Set n3 & n41 *
void stp05(){
    short a,b;
    for(a=1;a<65;a++){b=CC-a;
        if((flg[a]==0)&&(flg[b]==0)){
            nm[3]=a; nm[41]=b;
            flg[a]=1; flg[b]=1;
            stp06();
            flg[b]=0; flg[a]=0;}}
    }
}
/** Set n7=SSM-n2-n3-n6 & n45 *
void stp06(){
    short a,b;
    a=SSM-nm[2]-nm[3]-nm[6];
    b=SSM-nm[44]-nm[41]-nm[48];
    if((0<a)&&(a<65)&&(a+b==CC)){
        if((flg[a]==0)&&(flg[b]==0)){
            nm[7]=a; nm[45]=b;
            flg[a]=1; flg[b]=1;
            stp07();
            flg[b]=0; flg[a]=0;}}
    }
}
/** Set n4 & n42 *
void stp07(){
    short a,b;
    for(a=64;a>0;a--){b=CC-a;
        if((flg[a]==0)&&(flg[b]==0)){
            nm[4]=a; nm[42]=b;
            flg[a]=1; flg[b]=1;
            stp08();
            flg[b]=0; flg[a]=0;}}
    }
}
}
/** Set n8=SSM-n3-n4-n7 & n46 *
void stp08(){
    short a,b;
    a=SSM-nm[3]-nm[4]-nm[7];
    b=SSM-nm[41]-nm[42]-nm[45];
    if((0<a)&&(a<65)&&(a+b==CC)){
        if((flg[a]==0)&&(flg[b]==0)){
            nm[8]=a; nm[46]=b;
            flg[a]=1; flg[b]=1;
            stp09();
            flg[b]=0; flg[a]=0;}}
    }
}
/** Level #2 *
/** Set n9 & n35 *
void stp09(){
    short a,b;
    for(a=1;a<65;a++){b=CC-a;
        if((flg[a]==0)&&(flg[b]==0)){
            nm[9]=a; nm[35]=b;
            flg[a]=1; flg[b]=1;
            stp10();
            flg[b]=0; flg[a]=0;}}
    }
}
}
/** Set n10=SSM-n5-n6-n9 & n36 *
void stp10(){
    short a,b;
    a=SSM-nm[5]-nm[6]-nm[9];

```

```

b=SSM-nm[47]-nm[48]-nm[35];
if((0<a)&&(a<65)&&(a+b==CC)){
    if((flg[a]==0)&&(flg[b]==0)){
        nm[10]=a; nm[36]=b;
        flg[a]=1; flg[b]=1;
        stp11();
        flg[b]=0; flg[a]=0;}}
}
/* Set n11=SSM-n6-n7-n10 & n33 *
void stp11(){
    short a,b;
    a=SSM-nm[6]-nm[7]-nm[10];
    b=SSM-nm[48]-nm[45]-nm[36];
    if((0<a)&&(a<65)&&(a+b==CC)){
        if((flg[a]==0)&&(flg[b]==0)){
            nm[11]=a; nm[33]=b;
            flg[a]=1; flg[b]=1;
            stp12();
            flg[b]=0; flg[a]=0;}}
}
/* Set n12=SSM-n7-n8-n11 & n34 *
void stp12(){
    short a,b;
    a=SSM-nm[7]-nm[8]-nm[11];
    b=SSM-nm[45]-nm[46]-nm[33];
    if((0<a)&&(a<65)&&(a+b==CC)){
        if((flg[a]==0)&&(flg[b]==0)){
            nm[12]=a; nm[34]=b;
            flg[a]=1; flg[b]=1;
            stp13();
            flg[b]=0; flg[a]=0;}}
}
/* Set n13 & n39 *
void stp13(){
    short a,b;
    for(a=64;a>0;a--){b=CC-a;
        if((flg[a]==0)&&(flg[b]==0)){
            nm[13]=a; nm[39]=b;
            flg[a]=1; flg[b]=1;
            stp14();
            flg[b]=0; flg[a]=0;}}
}
/* Set n14=SSM-n9-n10-n13 & n40 *
void stp14(){
    short a,b;
    a=SSM-nm[9]-nm[10]-nm[13];
    b=SSM-nm[35]-nm[36]-nm[39];
    if((0<a)&&(a<65)&&(a+b==CC)){
        if((flg[a]==0)&&(flg[b]==0)){
            nm[14]=a; nm[40]=b;
            flg[a]=1; flg[b]=1;
            stp15();
            flg[b]=0; flg[a]=0;}}
}
/* Set n15=SSM-n10-n11-n14 & n37 *
void stp15(){
    short a,b;
    a=SSM-nm[10]-nm[11]-nm[14];
    b=SSM-nm[36]-nm[33]-nm[40];
    if((0<a)&&(a<65)&&(a+b==CC)){
        if((flg[a]==0)&&(flg[b]==0)){
            nm[15]=a; nm[37]=b;
            flg[a]=1; flg[b]=1;
            stp16();
            flg[b]=0; flg[a]=0;}}
}

```

```

}
/** Set n16=SSM-n11-n12-n15 & n38(>n1) *
void stp16(){
short a,b,sm;
a=SSM-nm[11]-nm[12]-nm[15];
b=SSM-nm[33]-nm[34]-nm[37];
if((0<a)&&(a<65)&&(a+b==CC)){
if((b>nm[1])&&(flg[a]==0)&&(flg[b]==0)){
nm[16]=a; nm[38]=b;
flg[a]=1; flg[b]=1;
sm=nm[1]+nm[6]+nm[11]+nm[16]+nm[43]+nm[48]+nm[33]+nm[38];
if(sm==LSM){stp17();}
flg[b]=0; flg[a]=0;}}
}
/** Level #3 *
/** Set n25 & n51 *
void stp17(){
short a,b;
for(a=64;a>0;a--){b=CC-a;
if((flg[a]==0)&&(flg[b]==0)){
nm[25]=a; nm[51]=b;
flg[a]=1; flg[b]=1;
stp18();
flg[b]=0; flg[a]=0;}}
}
}
/** Set n29=SSM-n4-n8-n25 & n55 *
void stp18(){
short a,b;
a=SSM-nm[4]-nm[8]-nm[25];
b=SSM-nm[42]-nm[46]-nm[51];
if((0<a)&&(a<65)&&(a+b==CC)){
if((flg[a]==0)&&(flg[b]==0)){
nm[29]=a; nm[55]=b;
flg[a]=1; flg[b]=1;
stp19();
flg[b]=0; flg[a]=0;}}
}
}
/** Set n17=SSM-n8-n12-n29 & n59 *
void stp19(){
short a,b;
a=SSM-nm[8]-nm[12]-nm[29];
b=SSM-nm[46]-nm[34]-nm[55];
if((0<a)&&(a<65)&&(a+b==CC)){
if((flg[a]==0)&&(flg[b]==0)){
nm[17]=a; nm[59]=b;
flg[a]=1; flg[b]=1;
stp20();
flg[b]=0; flg[a]=0;}}
}
}
/** Set n21=SSM-n12-n16-n17 & n63(>n1) *
void stp20(){
short a,b,c;
a=SSM-nm[12]-nm[16]-nm[17];
b=SSM-nm[34]-nm[38]-nm[59];
c=LSM-nm[1]-nm[5]-nm[9]-nm[13]-nm[51]-nm[55]-nm[59];
if((0<a)&&(a<65)&&(a+b==CC)&&(b>nm[1])){
if((b==c)&&(flg[a]==0)&&(flg[b]==0)){
nm[21]=a; nm[63]=b;
flg[a]=1; flg[b]=1;
stp21();
flg[b]=0; flg[a]=0;}}
}
}
/** Set n28=SSM-n38-n63-n1(>n1) & n50 *
void stp21(){
short a,b;

```

```

a=SSM-nm[38]-nm[63]-nm[1];
b=SSM-nm[16]-nm[21]-nm[43];
if((nm[1]<a)&&(a<65)&&(a+b==CC)){
    if((flg[a]==0)&&(flg[b]==0)){
        nm[28]=a; nm[50]=b;
        flg[a]=1; flg[b]=1;
        stp22();
        flg[b]=0; flg[a]=0;}}
}
/* Set n27=SSM-n37-n38-n28 & n49 *
void stp22(){
    short a,b;
    a=SSM-nm[37]-nm[38]-nm[28];
    b=SSM-nm[15]-nm[16]-nm[50];
    if((0<a)&&(a<65)&&(a+b==CC)){
        if((flg[a]==0)&&(flg[b]==0)){
            nm[27]=a; nm[49]=b;
            flg[a]=1; flg[b]=1;
            stp23();
            flg[b]=0; flg[a]=0;}}
}
/* Set n26=SSM-n40-n37-n27 & n52 *
void stp23(){
    short a,b,c,d,sm;
    a=SSM-nm[40]-nm[37]-nm[27];
    b=SSM-nm[14]-nm[15]-nm[49];
    c=SSM-nm[39]-nm[40]-nm[25];
    d=SSM-nm[13]-nm[14]-nm[51];
    if((0<a)&&(a<65)&&(a+b==CC)&&(a==c)){
        if((b==d)&&(flg[a]==0)&&(flg[b]==0)){
            nm[26]=a; nm[52]=b;
            flg[a]=1; flg[b]=1;
            sm=nm[1]+nm[2]+nm[3]+nm[4]+nm[25]+nm[26]+nm[27]+nm[28];
            if(sm==LSM){stp24();}
            flg[b]=0; flg[a]=0;}}
}
/* Level #4 *
/* Set n30=SSM-n25-n26-n29 & n56 *
void stp24(){
    short a,b;
    a=SSM-nm[25]-nm[26]-nm[29];
    b=SSM-nm[51]-nm[52]-nm[55];
    if((0<a)&&(a<65)&&(a+b==CC)){
        if((flg[a]==0)&&(flg[b]==0)){
            nm[30]=a; nm[56]=b;
            flg[a]=1; flg[b]=1;
            stp25();
            flg[b]=0; flg[a]=0;}}
}
/* Set n31=SSM-n26-n27-n30 & n53 *
void stp25(){
    short a,b;
    a=SSM-nm[26]-nm[27]-nm[30];
    b=SSM-nm[52]-nm[49]-nm[56];
    if((0<a)&&(a<65)&&(a+b==CC)){
        if((flg[a]==0)&&(flg[b]==0)){
            nm[31]=a; nm[53]=b;
            flg[a]=1; flg[b]=1;
            stp26();
            flg[b]=0; flg[a]=0;}}
}
/* Set n32=SSM-n27-n28-n31 & n54 *
void stp26(){
    short a,b,c,d;
    a=SSM-nm[27]-nm[28]-nm[31];
    b=SSM-nm[49]-nm[50]-nm[53];

```

```

c=SSM-nm[28]-nm[1]-nm[5];
d=SSM-nm[50]-nm[43]-nm[47];
if((0<a)&&(a<65)&&(a+b==CC)){
    if((a==c)&&(flg[a]==0)&&(flg[b]==0)){
        nm[32]=a; nm[54]=b;
        flg[a]=1; flg[b]=1;
        stp27();
        flg[b]=0; flg[a]=0;}}
}
/* Set n18=SSM-n29-n30-n17 & n60 *
void stp27(){
short a,b;
a=SSM-nm[29]-nm[30]-nm[17];
b=SSM-nm[55]-nm[56]-nm[59];
if((0<a)&&(a<65)&&(a+b==CC)){
    if((flg[a]==0)&&(flg[b]==0)){
        nm[18]=a; nm[60]=b;
        flg[a]=1; flg[b]=1;
        stp28();
        flg[b]=0; flg[a]=0;}}
}
/* Set n19=SSM-n30-n31-n18 & n57 *
void stp28(){
short a,b;
a=SSM-nm[30]-nm[31]-nm[18];
b=SSM-nm[56]-nm[53]-nm[60];
if((0<a)&&(a<65)&&(a+b==CC)){
    if((flg[a]==0)&&(flg[b]==0)){
        nm[19]=a; nm[57]=b;
        flg[a]=1; flg[b]=1;
        stp29();
        flg[b]=0; flg[a]=0;}}
}
/* Set n20=SSM-n31-n32-n19 & n58 *
void stp29(){
short a,b,c,d;
a=SSM-nm[31]-nm[32]-nm[19];
b=SSM-nm[53]-nm[54]-nm[57];
c=SSM-nm[32]-nm[5]-nm[9];
d=SSM-nm[54]-nm[47]-nm[35];
if((0<a)&&(a<65)&&(a+b==CC)){
    if((a==c)&&(flg[a]==0)&&(flg[b]==0)){
        nm[20]=a; nm[58]=b;
        flg[a]=1; flg[b]=1;
        stp30();
        flg[b]=0; flg[a]=0;}}
}
/* Set n22=SSM-n17-n18-n21 & n64 *
void stp30(){
short a,b,c,d;
a=SSM-nm[17]-nm[18]-nm[21];
b=SSM-nm[59]-nm[60]-nm[63];
c=SSM-nm[21]-nm[43]-nm[44];
d=SSM-nm[63]-nm[1]-nm[2];
if((0<a)&&(a<65)&&(a+b==CC)){
    if((a==c)&&(flg[a]==0)&&(flg[b]==0)){
        nm[22]=a; nm[64]=b;
        flg[a]=1; flg[b]=1;
        stp31();
        flg[b]=0; flg[a]=0;}}
}
/* Set n23=SSM-n18-n19-n22 & n61 *
void stp31(){
short a,b,c,d;
a=SSM-nm[18]-nm[19]-nm[22];
b=SSM-nm[60]-nm[57]-nm[64];

```



```

c=SSM-nm[22]-nm[44]-nm[41];
d=SSM-nm[64]-nm[2]-nm[3];
if((0<a)&&(a<65)&&(a+b==CC)){
    if((a==c)&&(flg[a]==0)&&(flg[b]==0)){
        nm[23]=a; nm[61]=b;
        flg[a]=1; flg[b]=1;
        stp32();
        flg[b]=0; flg[a]=0;}}
}
/* Set n24=SSM-n19-n20-n23 & n62 *
void stp32(){
short a,b,c,d;
a=SSM-nm[19]-nm[20]-nm[23];
b=SSM-nm[57]-nm[58]-nm[61];
c=SSM-nm[20]-nm[9]-nm[13];
d=SSM-nm[58]-nm[35]-nm[39];
if((a+b==CC)&&(0<a)&&(a<65)){
    if((a==c)&&(b==d)&&(flg[a]==0)&&(flg[b]==0)){
        nm[24]=a; nm[62]=b;
        flg[a]=1; flg[b]=1;
        stp33();
        flg[b]=0; flg[a]=0;}}
}
/* Check some Composite Sums *
void stp33(){
short sm1,sm2,sm3,sm4;
sm1=nm[23]+nm[24]+nm[41]+nm[42];
sm2=nm[24]+nm[13]+nm[42]+nm[51];
sm3=nm[61]+nm[62]+nm[3]+nm[4];
sm4=nm[62]+nm[39]+nm[4]+nm[25];
if((sm1==SSM)&&(sm2==SSM)&&(sm3==SSM)&&(sm4==SSM)){
    ans26print();}
}
//
/* Print Procedure for Listing the Answers *
void ans26print(){
cnt++; cnt2++;
if(cnt2==1){
    printf("%3ld/6dEC02\n", cnt);
    pr1pat26();
    pr2pat26();
}
}
//
/* Print the Pattern-1 *
void pr1pat26(){
printf("%4d----%2d%7d----%2d", nm[1],nm[2],nm[3],nm[4]);
printf("%8d----%2d%7d----%2d\n", nm[33],nm[34],nm[35],nm[36]);
printf("   |%3d--+-%2d   |%3d--+-%2d", nm[17],nm[18],nm[19],nm[20]);
printf("   |%3d--+-%2d   |%3d--+-%2d\n", nm[49],nm[50],nm[51],nm[52]);
printf("%4d--l-%2d |%4d--l-%2d |", nm[5],nm[6],nm[7],nm[8]);
printf("%5d--l-%2d |%4d--l-%2d | \n", nm[37],nm[38],nm[39],nm[40]);
printf("%7d----%2d%7d----%2d", nm[21],nm[22],nm[23],nm[24]);
printf("%8d----%2d%7d----%2d\n", nm[53],nm[54],nm[55],nm[56]);
printf("\n");
/**/
printf("%4d----%2d%7d----%2d", nm[9],nm[10],nm[11],nm[12]);
printf("%8d----%2d%7d----%2d\n", nm[41],nm[42],nm[43],nm[44]);
printf("   |%3d--+-%2d   |%3d--+-%2d", nm[25],nm[26],nm[27],nm[28]);
printf("   |%3d--+-%2d   |%3d--+-%2d\n", nm[57],nm[58],nm[59],nm[60]);
printf("%4d--l-%2d |%4d--l-%2d |", nm[13],nm[14],nm[15],nm[16]);
printf("%5d--l-%2d |%4d--l-%2d | \n", nm[45],nm[46],nm[47],nm[48]);
printf("%7d----%2d%7d----%2d", nm[29],nm[30],nm[31],nm[32]);
printf("%8d----%2d%7d----%2d\n", nm[61],nm[62],nm[63],nm[64]);
printf("\n");
}

```

```

//
/** Print the Solution Set of 'C&C'MC4 and CCMS88 *
void pr2pat26(){
printf("%3d-----%2d      %2d-----%2d ",
      nm[1],nm[2],nm[3],nm[4]);
printf(" /CC4          T1/CS8          T2/\n");
printf(" |%2d-----+%2d      |%2d-----+%2d      ",
      nm[17],nm[18],nm[19],nm[20]);
printf("%4d%3d%3d%3d%3d%3d%3d%3d",
      nm[1],nm[2],nm[3],nm[4],nm[25],nm[26],nm[27],nm[28]);
printf("%5d%3d%3d%3d%3d%3d%3d%3d\n",
      nm[1],nm[2],nm[3],nm[4],nm[25],nm[26],nm[27],nm[28]);
printf(" %2d-|%2d===%2d+%2d      %2d-|%2d===%2d+%2d      ",
      nm[5],nm[33],nm[6],nm[34],nm[7],nm[35],nm[8],nm[36]);
printf("%4d%3d%3d%3d%3d%3d%3d%3d",
      nm[5],nm[6],nm[7],nm[8],nm[29],nm[30],nm[31],nm[32]);
printf("%5d%3d%3d%3d%3d%3d%3d%3d\n",
      nm[5],nm[6],nm[7],nm[8],nm[29],nm[30],nm[31],nm[32]);
printf(" %2d-|%2d===%2d+%2d      %2d-|%2d===%2d+%2d      ",
      nm[21],nm[49],nm[22],nm[50],nm[23],nm[51],nm[24],nm[52]);
printf("%4d%3d%3d%3d%3d%3d%3d%3d",
      nm[9],nm[10],nm[11],nm[12],nm[17],nm[18],nm[19],nm[20]);
printf("%5d%3d%3d%3d%3d%3d%3d%3d\n",
      nm[39],nm[40],nm[37],nm[38],nm[63],nm[64],nm[61],nm[62]);
printf(" %2d--%2d=|%2d--%2d | %2d--%2d=|%2d--%2d | ",
      nm[9],nm[37],nm[10],nm[38],nm[11],nm[39],nm[12],nm[40]);
printf("%4d%3d%3d%3d%3d%3d%3d%3d",
      nm[13],nm[14],nm[15],nm[16],nm[21],nm[22],nm[23],nm[24]);
printf("%5d%3d%3d%3d%3d%3d%3d%3d\n",
      nm[35],nm[36],nm[33],nm[34],nm[59],nm[60],nm[57],nm[58]);
printf(" |%2d--%2d===+%2d--%2d |%2d--%2d===+%2d--%2d | ",
      nm[25],nm[53],nm[26],nm[54],nm[27],nm[55],nm[28],nm[56]);
printf("%4d%3d%3d%3d%3d%3d%3d%3d",
      nm[51],nm[52],nm[49],nm[50],nm[43],nm[44],nm[41],nm[42]);
printf("%5d%3d%3d%3d%3d%3d%3d%3d\n",
      nm[51],nm[52],nm[49],nm[50],nm[43],nm[44],nm[41],nm[42]);
printf(" %2d-|%2d===%2d+%2d      %2d-|%2d===%2d+%2d      ",
      nm[13],nm[41],nm[14],nm[42],nm[15],nm[43],nm[16],nm[44]);
printf("%4d%3d%3d%3d%3d%3d%3d%3d",
      nm[55],nm[56],nm[53],nm[54],nm[47],nm[48],nm[45],nm[46]);
printf("%5d%3d%3d%3d%3d%3d%3d%3d\n",
      nm[55],nm[56],nm[53],nm[54],nm[47],nm[48],nm[45],nm[46]);
printf(" %2d-|%2d===%2d+%2d      %2d-|%2d===%2d+%2d      ",
      nm[29],nm[57],nm[30],nm[58],nm[31],nm[59],nm[32],nm[60]);
printf("%4d%3d%3d%3d%3d%3d%3d%3d",
      nm[59],nm[60],nm[57],nm[58],nm[35],nm[36],nm[33],nm[34]);
printf("%5d%3d%3d%3d%3d%3d%3d%3d\n",
      nm[21],nm[22],nm[23],nm[24],nm[13],nm[14],nm[15],nm[16]);
printf(" %2d-|-----%2d | %2d-|-----%2d | ",
      nm[45],nm[46],nm[47],nm[48]);
printf("%4d%3d%3d%3d%3d%3d%3d%3d",
      nm[63],nm[64],nm[61],nm[62],nm[39],nm[40],nm[37],nm[38]);
printf("%5d%3d%3d%3d%3d%3d%3d%3d\n",
      nm[17],nm[18],nm[19],nm[20],nm[9],nm[10],nm[11],nm[12]);
printf(" %2d-----%2d      %2d-----%2d\n",
      nm[61],nm[62],nm[63],nm[64]);
printf("\n");
}
//

```

2. 次に示すのが、このプログラムを解いて得た実行結果である。解の総数が非常に多いので、大幅に間引きしてリスト・アップしてある。

六次元二方陣を解いて正方連結型完全八方陣の解(下図/CS8)を得た実験結果

1/6dEC02

1---63	5---59	52---14	56---10
46--+20	42--+24	31--+33	27--+37
62- - 4	58- - 8	15- -49	11- -53
17---47	21---43	36---30	40---26

9---55	13---51	60--- 6	64--- 2
38--+28	34--+32	23--+41	19--+45
54- -12	50- -16	7- -57	3- -61
25---39	29---35	44---22	48---18

1-----63	5-----59	/CC4	1/CS8	5/
46-----+20	42-----+24		1 63 5 59 38 28 34 32	1 63 5 59 38 28 34 32
62- 52=== 4=+14	58- 56=== 8=+10		62 4 58 8 25 39 29 35	62 4 58 8 25 39 29 35
17- 31===47+33	21- 27===43+37		9 55 13 51 46 20 42 24	11 53 15 49 48 18 44 22
9-15= -55-49	13-11= -51-53		54 12 50 16 17 47 21 43	56 10 52 14 19 45 23 41
38-36==+28-30	34-40==+32-26		27 37 31 33 64 2 60 6	27 37 31 33 64 2 60 6
54- 60===12+ 6	50- 64===16+ 2		40 26 36 30 3 61 7 57	40 26 36 30 3 61 7 57
25- 23===39+41	29- 19===35+45		19 45 23 41 56 10 52 14	17 47 21 43 54 12 50 16
7- -----57	3- -----61		48 18 44 22 11 53 15 49	46 20 42 24 9 55 13 51
44-----22	48-----18			

3841/6dEC02

1---62	2---61	55---12	56---11
44--+23	43--+24	30--+33	29--+34
60- - 7	59- - 8	14- -49	13- -50
17---46	18---45	39---28	40---27

9---54	10---53	63--- 4	64--- 3
36--+31	35--+32	22--+41	21--+42
52- -15	51- -16	6- -57	5- -58
25---38	26---37	47---20	48---19

1-----62	2-----61	/CC4	3841/CS8	3845/
44-----+23	43-----+24		1 62 2 61 36 31 35 32	1 62 2 61 36 31 35 32
60- 55=== 7=+12	59- 56=== 8=+11		60 7 59 8 25 38 26 37	60 7 59 8 25 38 26 37
17- 30===46+33	18- 29===45+34		9 54 10 53 44 23 43 24	13 50 14 49 48 19 47 20
9-14= -54-49	10-13= -53-50		52 15 51 16 17 46 18 45	56 11 55 12 21 42 22 41
36-39==+31-28	35-40==+32-27		29 34 30 33 64 3 63 4	29 34 30 33 64 3 63 4
52- 63===15+ 4	51- 64===16+ 3		40 27 39 28 5 58 6 57	40 27 39 28 5 58 6 57
25- 22===38+41	26- 21===37+42		21 42 22 41 56 11 55 12	17 46 18 45 52 15 51 16
6- -----57	5- -----58		48 19 47 20 13 50 14 49	44 23 43 24 9 54 10 53
47-----20	48-----19			

7297/6dEC02

1---61	2---62	55---11	56---12
44--+24	43--+23	30--+34	29--+33
60- - 8	59- - 7	14- -50	13- -49
17---45	18---46	39---27	40---28

9---53	10---54	63--- 3	64--- 4
36--+32	35--+31	22--+42	21--+41
52- -16	51- -15	6- -58	5- -57
25---37	26---38	47---19	48---20

1-----61	2-----62	/CC4	7297/CS8	7301/
44-----+24	43-----+23		1 61 2 62 36 32 35 31	1 61 2 62 36 32 35 31
60- 55=== 8=+11	59- 56=== 7=+12		60 8 59 7 25 37 26 38	60 8 59 7 25 37 26 38
17- 30===45+34	18- 29===46+33		9 53 10 54 44 24 43 23	13 49 14 50 48 20 47 19
9-14= -53-50	10-13= -54-49		52 16 51 15 17 45 18 46	56 12 55 11 21 41 22 42
36-39==+32-27	35-40==+31-28		29 33 30 34 64 4 63 3	29 33 30 34 64 4 63 3
52- 63===16+ 3	51- 64===15+ 4		40 28 39 27 5 57 6 58	40 28 39 27 5 57 6 58
25- 22===37+42	26- 21===38+41		21 41 22 42 56 12 55 11	17 45 18 46 52 16 51 15
6- -----58	5- -----57		48 20 47 19 13 49 14 50	44 24 43 23 9 53 10 54
47-----19	48-----20			

8833/6dEC02

1---60 2---62 47---19 48---21
 | 24---+45 | 23---+43 | 58---+ 6 | 57---+ 4
 56-|-13 | 55-|-11 | 26-|-38 | 25-|-36 |
 33---28 34---30 15---51 16---53

17---44 18---46 63--- 3 64--- 5
 | 8---+61 | 7---+59 | 42---+22 | 41---+20
 40-|-29 | 39-|-27 | 10-|-54 | 9-|-52 |
 49---12 50---14 31---35 32---37

1-----60	2-----62	/CC4	8833/CS8	8835/
24-----+45	23-----+43		1 60 2 62 8 61 7 59	1 60 2 62 8 61 7 59
56- 47===13=+19	55- 48===11=+21		56 13 55 11 49 12 50 14	56 13 55 11 49 12 50 14
33- 58===28+ 6	34- 57===30+ 4		17 44 18 46 24 45 23 43	25 36 26 38 32 37 31 35
17-26= 44-38	18-25= -46-36		40 29 39 27 33 28 34 30	48 21 47 19 41 20 42 22
8-15===+61-51	7-16===+59-53		57 4 58 6 64 5 63 3	57 4 58 6 64 5 63 3
40- 63===29+ 3	39- 64===27+ 5		16 53 15 51 9 52 10 54	16 53 15 51 9 52 10 54
49- 42===12+22	50- 41===14+20		41 20 42 22 48 21 47 19	33 28 34 30 40 29 39 27
10- -----54	9- -----52		32 37 31 35 25 36 26 38	24 45 23 43 17 44 18 46
31-----35	32-----37			

11713/6dEC02

1---59 2---61 47---20 48---22
 | 24---+46 | 23---+44 | 58---+ 5 | 57---+ 3
 56-|-14 | 55-|-12 | 26-|-37 | 25-|-35 |
 33---27 34---29 15---52 16---54

17---43 18---45 63--- 4 64--- 6
 | 8---+62 | 7---+60 | 42---+21 | 41---+19
 40-|-30 | 39-|-28 | 10-|-53 | 9-|-51 |
 49---11 50---13 31---36 32---38

1-----59	2-----61	/CC4	11713/CS8	11715/
24-----+46	23-----+44		1 59 2 61 8 62 7 60	1 59 2 61 8 62 7 60
56- 47===14=+20	55- 48===12=+22		56 14 55 12 49 11 50 13	56 14 55 12 49 11 50 13
33- 58===27+ 5	34- 57===29+ 3		17 43 18 45 24 46 23 44	25 35 26 37 32 38 31 36
17-26= 43-37	18-25= -45-35		40 30 39 28 33 27 34 29	48 22 47 20 41 19 42 21
8-15===+62-52	7-16===+60-54		57 3 58 5 64 6 63 4	57 3 58 5 64 6 63 4
40- 63===30+ 4	39- 64===28+ 6		16 54 15 52 9 51 10 53	16 54 15 52 9 51 10 53
49- 42===11+21	50- 41===13+19		41 19 42 21 48 22 47 20	33 27 34 29 40 30 39 28
10- -----53	9- -----51		32 38 31 36 25 35 26 37	24 46 23 44 17 43 18 45
31-----36	32-----38			

13057/6dEC02

1---58 3---61 46---20 48---23
 | 24---+47 | 22---+44 | 59---+ 5 | 57---+ 2
 56-|-15 | 54-|-12 | 27-|-37 | 25-|-34 |
 33---26 35---29 14---52 16---55

17---42 19---45 62--- 4 64--- 7
 | 8---+63 | 6---+60 | 43---+21 | 41---+18
 40-|-31 | 38-|-28 | 11-|-53 | 9-|-50 |
 49---10 51---13 30---36 32---39

1-----58	3-----61	/CC4	13057/CS8	13059/
24-----+47	22-----+44		1 58 3 61 8 63 6 60	1 58 3 61 8 63 6 60
56- 46===15=+20	54- 48===12=+23		56 15 54 12 49 10 51 13	56 15 54 12 49 10 51 13
33- 59===26+ 5	35- 57===29+ 2		17 42 19 45 24 47 22 44	25 34 27 37 32 39 30 36
17-27= 42-37	19-25= -45-34		40 31 38 28 33 26 35 29	48 23 46 20 41 18 43 21
8-14===+63-52	6-16===+60-55		57 2 59 5 64 7 62 4	57 2 59 5 64 7 62 4
40- 62===31+ 4	38- 64===28+ 7		16 55 14 52 9 50 11 53	16 55 14 52 9 50 11 53
49- 43===10+21	51- 41===13+18		41 18 43 21 48 23 46 20	33 26 35 29 40 31 38 28
11- -----53	9- -----50		32 39 30 36 25 34 27 37	24 47 22 44 17 42 19 45
30-----36	32-----39			

14401/6dEC02

1---56 2---62 59--- 7 60---13
 | 16---+57 | 15---+51 | 54---+10 | 53---+ 4
 48-|-25 | 47-|-19 | 22-|-42 | 21-|-36 |
 33---24 34---30 27---39 28---45

5---52 6---58 63--- 3 64--- 9
 | 12---+61 | 11---+55 | 50---+14 | 49---+ 8
 44-|-29 | 43-|-23 | 18-|-46 | 17-|-40 |
 37---20 38---26 31---35 32---41

1-----56	2-----62	/CC4	14401/CS8	14403/
16-----+57	15-----+51		1 56 2 62 12 61 11 55	1 56 2 62 12 61 11 55
48- 59==25+ 7	47- 60==19+13		48 25 47 19 37 20 38 26	48 25 47 19 37 20 38 26
33- 54==24+10	34- 53==30+ 4		5 52 6 58 16 57 15 51	21 36 22 42 32 41 31 35
5-22= -52-42	6-21= -58-36		44 29 43 23 33 24 34 30	60 13 59 7 49 8 50 14
12-27==+61-39	11-28==+55-45		53 4 54 10 64 9 63 3	53 4 54 10 64 9 63 3
44- 63==29+ 3	43- 64==23+ 9		28 45 27 39 17 40 18 46	28 45 27 39 17 40 18 46
37- 50==20+14	38- 49==26+ 8		49 8 50 14 60 13 59 7	33 24 34 30 44 29 43 23
18- -----46	17- -----40		32 41 31 35 21 36 22 42	16 57 15 51 5 52 6 58
31-----35	32-----41			

16513/6dEC02

1---55 2---61 59--- 8 60---14
 | 16---+58 | 15---+52 | 54---+ 9 | 53---+ 3
 48-|-26 | 47-|-20 | 22-|-41 | 21-|-35 |
 33---23 34---29 27---40 28---46

5---51 6---57 63--- 4 64---10
 | 12---+62 | 11---+56 | 50---+13 | 49---+ 7
 44-|-30 | 43-|-24 | 18-|-45 | 17-|-39 |
 37---19 38---25 31---36 32---42

1-----55	2-----61	/CC4	16513/CS8	16515/
16-----+58	15-----+52		1 55 2 61 12 62 11 56	1 55 2 61 12 62 11 56
48- 59==26+ 8	47- 60==20+14		48 26 47 20 37 19 38 25	48 26 47 20 37 19 38 25
33- 54==23+ 9	34- 53==29+ 3		5 51 6 57 16 58 15 52	21 35 22 41 32 42 31 36
5-22= -51-41	6-21= -57-35		44 30 43 24 33 23 34 29	60 14 59 8 49 7 50 13
12-27==+62-40	11-28==+56-46		53 3 54 9 64 10 63 4	53 3 54 9 64 10 63 4
44- 63==30+ 4	43- 64==24+10		28 46 27 40 17 39 18 45	28 46 27 40 17 39 18 45
37- 50==19+13	38- 49==25+ 7		49 7 50 13 60 14 59 8	33 23 34 29 44 30 43 24
18- -----45	17- -----39		32 42 31 36 21 35 22 41	16 58 15 52 5 51 6 57
31-----36	32-----42			

1-----54	3-----61	/CC4	17537/CS8	17539/
16-----+59	14-----+52		1 54 3 61 12 63 10 56	1 54 3 61 12 63 10 56
48- 58==27+ 8	46- 60==20+15		48 27 46 20 37 18 39 25	48 27 46 20 37 18 39 25
33- 55==22+ 9	35- 53==29+ 2		5 50 7 57 16 59 14 52	21 34 23 41 32 43 30 36
5-23= -50-41	7-21= -57-34		44 31 42 24 33 22 35 29	60 15 58 8 49 6 51 13
12-26==+63-40	10-28==+56-47		53 2 55 9 64 11 62 4	53 2 55 9 64 11 62 4
44- 62==31+ 4	42- 64==24+11		28 47 26 40 17 38 19 45	28 47 26 40 17 38 19 45
37- 51==18+13	39- 49==25+ 6		49 6 51 13 60 15 58 8	33 22 35 29 44 31 42 24
19- -----45	17- -----38		32 43 30 36 21 34 23 41	16 59 14 52 5 50 7 57
30-----36	32-----43			

1-----52	5-----59	/CC4	18561/CS8	18563/
16-----+61	12-----+54		1 52 5 59 14 63 10 56	1 52 5 59 14 63 10 56
48- 58==29+ 8	44- 62==22+15		48 29 44 22 35 18 39 25	48 29 44 22 35 18 39 25
33- 55==20+ 9	37- 51==27+ 2		3 50 7 57 16 61 12 54	19 34 23 41 32 45 28 38
3-23= -50-41	7-19= -57-34		46 31 42 24 33 20 37 27	62 15 58 8 49 4 53 11
14-26==+63-40	10-30==+56-47		51 2 55 9 64 13 60 6	51 2 55 9 64 13 60 6
46- 60==31+ 6	42- 64==24+13		30 47 26 40 17 36 21 43	30 47 26 40 17 36 21 43
35- 53==18+11	39- 49==25+ 4		49 4 53 11 62 15 58 8	33 20 37 27 46 31 42 24
21- -----43	17- -----36		32 45 28 38 19 34 23 41	16 61 12 54 3 50 7 57
28-----38	32-----45			

1-----48 24-----+57	2-----62 /CC4 23-----+43	19585/CS8	19587/
32- 59===49+= 7	31- 60===35+=21	1 48 2 62 20 61 19 47	1 48 2 62 20 61 19 47
37- 46===12+=18	38- 45===26+= 4	32 49 31 35 13 36 14 50	32 49 31 35 13 36 14 50
5-10= =44-54	6-- 9= -58-40	5 44 6 58 24 57 23 43	9 40 10 54 28 53 27 39
20-51===61--15	19-52===47--29	56 25 55 11 37 12 38 26	60 21 59 7 41 8 42 22
56- 63===25+= 3	55- 64===11+=17	45 4 46 18 64 17 63 3	45 4 46 18 64 17 63 3
13- 42===36+=22	14- 41===50+= 8	52 29 51 15 33 16 34 30	52 29 51 15 33 16 34 30
34- -----30	33- -----16	41 8 42 22 60 21 59 7	37 12 38 26 56 25 55 11
27-----39	28-----53	28 53 27 39 9 40 10 54	24 57 23 43 5 44 6 58

1-----47 24-----+58	2-----61 /CC4 23-----+44	20737/CS8	20739/
32- 59===50+= 8	31- 60===36+=22	1 47 2 61 20 62 19 48	1 47 2 61 20 62 19 48
37- 46===11+=17	38- 45===25+= 3	32 50 31 36 13 35 14 49	32 50 31 36 13 35 14 49
5-10= =43-53	6-- 9= -57-39	5 43 6 57 24 58 23 44	9 39 10 53 28 54 27 40
20-51===62--16	19-52===48--30	56 26 55 12 37 11 38 25	60 22 59 8 41 7 42 21
56- 63===26+= 4	55- 64===12+=18	45 3 46 17 64 18 63 4	45 3 46 17 64 18 63 4
13- 42===35+=21	14- 41===49+= 7	52 30 51 16 33 15 34 29	52 30 51 16 33 15 34 29
34- -----29	33- -----15	41 7 42 21 60 22 59 8	37 11 38 25 56 26 55 12
27-----40	28-----54	28 54 27 40 9 39 10 53	24 58 23 44 5 43 6 57

1-----46 24-----+59	3-----61 /CC4 22-----+44	21313/CS8	21315/
32- 58===51+= 8	30- 60===36+=23	1 46 3 61 20 63 18 48	1 46 3 61 20 63 18 48
37- 47===10+=17	39- 45===25+= 2	32 51 30 36 13 34 15 49	32 51 30 36 13 34 15 49
5-11= =42-53	7-- 9= -57-38	5 42 7 57 24 59 22 44	9 38 11 53 28 55 26 40
20-50===63--16	18-52===48--31	56 27 54 12 37 10 39 25	60 23 58 8 41 6 43 21
56- 62===27+= 4	54- 64===12+=19	45 2 47 17 64 19 62 4	45 2 47 17 64 19 62 4
13- 43===34+=21	15- 41===49+= 6	52 31 50 16 33 14 35 29	52 31 50 16 33 14 35 29
35- -----29	33- -----14	41 6 43 21 60 23 58 8	37 10 39 25 56 27 54 12
26-----40	28-----55	28 55 26 40 9 38 11 53	24 59 22 44 5 42 7 57

1-----44 24-----+61	5-----59 /CC4 20-----+46	21889/CS8	21891/
32- 58===53+= 8	28- 62===38+=23	1 44 5 59 22 63 18 48	1 44 5 59 22 63 18 48
35- 47===10+=17	39- 43===25+= 2	32 53 28 38 11 34 15 49	32 53 28 38 11 34 15 49
3--13= =42-51	7-- 9= -57-36	3 42 7 57 24 61 20 46	9 36 13 51 30 55 26 40
22-50===63--16	18-54===48--31	56 29 52 14 35 10 39 25	62 23 58 8 41 4 45 19
56- 60===29+= 6	52- 64===14+=21	43 2 47 17 64 21 60 6	43 2 47 17 64 21 60 6
11- 45===34+=19	15- 41===49+= 4	54 31 50 16 33 12 37 27	54 31 50 16 33 12 37 27
37- -----27	33- -----12	41 4 45 19 62 23 58 8	35 10 39 25 56 29 52 14
26-----40	30-----55	30 55 26 40 9 36 13 51	24 61 20 46 3 42 7 57

1-----40 28-----+61	9-----55 /CC4 20-----+46	22465/CS8	22467/
32- 54===57+=12	24- 62===42+=27	1 40 9 55 26 63 18 48	1 40 9 55 26 63 18 48
35- 47=== 6+=17	43- 39===21+= 2	32 57 24 42 7 34 15 49	32 57 24 42 7 34 15 49
3--13= =38-51	11-- 5= -53-36	3 38 11 53 28 61 20 46	5 36 13 51 30 59 22 44
26-50===63--16	18-58===48--31	60 29 52 14 35 6 43 21	62 27 54 12 37 4 45 19
60- 56===29+=10	52- 64===14+=25	39 2 47 17 64 25 56 10	39 2 47 17 64 25 56 10
7- 45===34+=19	15- 37===49+= 4	58 31 50 16 33 8 41 23	58 31 50 16 33 8 41 23
41- -----23	33- ----- 8	37 4 45 19 62 27 54 12	35 6 43 21 60 29 52 14
22-----44	30-----59	30 59 22 44 5 36 13 51	28 61 20 46 3 38 11 53

(残りは、真中のタイプの目的方陣/CS8 のみを簡略にリスト・アップする。)

23041/	46081/	68737/
2 64 5 59 37 27 34 32	3 64 5 58 37 26 35 32	4 64 2 62 33 29 35 31
61 3 58 8 26 40 29 35	61 2 59 8 27 40 29 34	57 5 59 7 28 40 26 38
10 56 13 51 45 19 42 24	11 56 13 50 45 18 43 24	12 56 10 54 41 21 43 23
53 11 50 16 18 48 21 43	53 10 51 16 19 48 21 42	49 13 51 15 20 48 18 46
28 38 31 33 63 1 60 6	28 39 30 33 62 1 60 7	32 36 30 34 61 1 63 3
39 25 36 30 4 62 7 57	38 25 36 31 4 63 6 57	37 25 39 27 8 60 6 58
20 46 23 41 55 9 52 14	20 47 22 41 54 9 52 15	24 44 22 42 53 9 55 11
47 17 44 22 12 54 15 49	46 17 44 23 12 55 14 49	45 17 47 19 16 52 14 50

91393/
5 64 3 58 35 26 37 32
59 2 61 8 29 40 27 34
13 56 11 50 43 18 45 24
51 10 53 16 21 48 19 42
30 39 28 33 60 1 62 7
36 25 38 31 6 63 4 57
22 47 20 41 52 9 54 15
44 17 46 23 14 55 12 49

113089/
6 64 2 60 33 27 37 31
57 3 61 7 30 40 26 36
14 56 10 52 41 19 45 23
49 11 53 15 22 48 18 44
32 38 28 34 59 1 63 5
35 25 39 29 8 62 4 58
24 46 20 42 51 9 55 13
43 17 47 21 16 54 12 50

134785/
7 64 3 60 33 26 37 30
57 2 61 6 31 40 27 36
15 56 11 52 41 18 45 22
49 10 53 14 23 48 19 44
32 39 28 35 58 1 62 5
34 25 38 29 8 63 4 59
24 47 20 43 50 9 54 13
42 17 46 21 16 55 12 51

156097/
8 63 4 59 34 25 38 29
58 1 62 5 32 39 28 35
15 56 11 52 41 18 45 22
49 10 53 14 23 48 19 44
31 40 27 36 57 2 61 6
33 26 37 30 7 64 3 60
24 47 20 43 50 9 54 13
42 17 46 21 16 55 12 51

177409/
9 64 3 60 7 50 13 54
55 2 61 6 57 16 51 12
25 48 19 44 23 34 29 38
39 18 45 22 41 32 35 28
58 15 52 11 56 1 62 5
8 49 14 53 10 63 4 59
42 31 36 27 40 17 46 21
24 33 30 37 26 47 20 43

195649/
10 64 2 59 5 51 13 56
53 3 61 8 58 16 50 11
26 48 18 43 21 35 29 40
37 19 45 24 42 32 34 27
60 14 52 9 55 1 63 6
7 49 15 54 12 62 4 57
44 30 36 25 39 17 47 22
23 33 31 38 28 46 20 41

213889/
11 64 3 58 5 50 13 56
53 2 61 8 59 16 51 10
27 48 19 42 21 34 29 40
37 18 45 24 43 32 35 26
60 15 52 9 54 1 62 7
6 49 14 55 12 63 4 57
44 31 36 25 38 17 46 23
22 33 30 39 28 47 20 41

231745/
12 63 4 57 6 49 14 55
54 1 62 7 60 15 52 9
27 48 19 42 21 34 29 40
37 18 45 24 43 32 35 26
59 16 51 10 53 2 61 8
5 50 13 56 11 64 3 58
44 31 36 25 38 17 46 23
22 33 30 39 28 47 20 41

249601/
13 64 5 58 3 50 11 56
51 2 59 8 61 16 53 10
29 48 21 42 19 34 27 40
35 18 43 24 45 32 37 26
62 15 54 9 52 1 60 7
4 49 12 55 14 63 6 57
46 31 38 25 36 17 44 23
20 33 28 39 30 47 22 41

266497/
14 63 6 57 4 49 12 55
52 1 60 7 62 15 54 9
29 48 21 42 19 34 27 40
35 18 43 24 45 32 37 26
61 16 53 10 51 2 59 8
3 50 11 56 13 64 5 58
46 31 38 25 36 17 44 23
20 33 28 39 30 47 22 41

283393/
15 62 7 57 4 49 12 54
52 1 60 6 63 14 55 9
29 48 21 43 18 35 26 40
34 19 42 24 45 32 37 27
61 16 53 11 50 3 58 8
2 51 10 56 13 64 5 59
47 30 39 25 36 17 44 22
20 33 28 38 31 46 23 41

299905/
16 61 8 53 36 17 44 25
52 1 60 9 32 45 24 37
14 63 6 55 34 19 42 27
50 3 58 11 30 47 22 39
29 48 21 40 49 4 57 12
33 20 41 28 13 64 5 56
31 46 23 38 51 2 59 10
35 18 43 26 15 62 7 54

316417/
17 64 3 60 7 42 21 46
47 2 61 6 57 24 43 20
25 56 11 52 15 34 29 38
16 33 30 37 26 55 12 51
58 23 44 19 48 1 62 5
8 41 22 45 18 63 4 59
50 31 36 27 40 9 54 13
39 10 53 14 49 32 35 28

322945/
18 64 2 59 5 43 21 48
45 3 61 8 58 24 42 19
26 56 10 51 13 35 29 40
15 33 31 38 28 54 12 49
60 22 44 17 47 1 63 6
7 41 23 46 20 62 4 57
52 30 36 25 39 9 55 14
37 11 53 16 50 32 34 27

329473/
19 64 3 58 5 42 21 48
45 2 61 8 59 24 43 18
27 56 11 50 13 34 29 40
14 33 30 39 28 55 12 49
60 23 44 17 46 1 62 7
6 41 22 47 20 63 4 57
52 31 36 25 38 9 54 15
37 10 53 16 51 32 35 26

335617/
20 63 4 57 6 41 22 47
46 1 62 7 60 23 44 17
27 56 11 50 13 34 29 40
14 33 30 39 28 55 12 49
59 24 43 18 45 2 61 8
5 42 21 48 19 64 3 58
52 31 36 25 38 9 54 15
37 10 53 16 51 32 35 26

341761/
21 64 5 58 3 42 19 48
43 2 59 8 61 24 45 18
29 56 13 50 11 34 27 40
12 33 28 39 30 55 14 49
62 23 46 17 44 1 60 7
4 41 20 47 22 63 6 57
54 31 38 25 36 9 52 15
35 10 51 16 53 32 37 26

346945/
22 63 6 57 4 41 20 47
44 1 60 7 62 23 46 17
29 56 13 50 11 34 27 40
12 33 28 39 30 55 14 49
61 24 45 18 43 2 59 8
3 42 19 48 21 64 5 58
54 31 38 25 36 9 52 15
35 10 51 16 53 32 37 26

352129/
23 62 7 57 4 41 20 46
44 1 60 6 63 22 47 17

356929/
24 61 8 45 36 9 52 25
44 1 60 17 32 53 16 37

361729/
25 56 10 54 12 37 27 39
48 1 63 3 61 20 46 18


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29 56 13 51 10 35 26 40 22 63 6 47 34 11 50 27 21 60 6 58 8 41 23 43
12 33 28 38 31 54 15 49 42 3 58 19 30 55 14 39 16 33 31 35 29 52 14 50
61 24 45 19 42 3 58 8 29 56 13 40 41 4 57 20 53 28 38 26 40 9 55 11
2 43 18 48 21 64 5 59 33 12 49 28 21 64 5 48 4 45 19 47 17 64 2 62
55 30 39 25 36 9 52 14 31 54 15 38 43 2 59 18 57 24 42 22 44 5 59 7
34 11 50 16 53 32 37 27 35 10 51 26 23 62 7 46 36 13 51 15 49 32 34 30

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363457/

365185/

366529/

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26 56 10 53 11 37 27 40 27 56 11 53 10 37 26 40 28 55 12 21 42 5 58 39
47 1 63 4 62 20 46 17 46 1 62 4 63 20 47 17 46 1 62 35 32 51 16 17
22 60 6 57 7 41 23 44 23 60 7 57 6 41 22 44 24 59 8 25 38 9 54 43
15 33 31 36 30 52 14 49 14 33 30 36 31 52 15 49 45 2 61 36 31 52 15 18
54 28 38 25 39 9 55 12 55 28 39 25 38 9 54 12 23 60 7 26 37 10 53 44
3 45 19 48 18 64 2 61 2 45 18 48 19 64 3 61 33 14 49 48 19 64 3 30
58 24 42 21 43 5 59 8 59 24 43 21 42 5 58 8 27 56 11 22 41 6 57 40
35 13 51 16 50 32 34 29 34 13 50 16 51 32 35 29 34 13 50 47 20 63 4 29

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367873/

368257/

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29 52 14 56 10 39 25 35 30 52 14 55 9 39 25 36
44 5 59 1 63 18 48 22 43 5 59 2 64 18 48 21
23 58 8 62 4 45 19 41 24 58 8 61 3 45 19 42
12 37 27 33 31 50 16 54 11 37 27 34 32 50 16 53
55 26 40 30 36 13 51 9 56 26 40 29 35 13 51 10
2 47 17 43 21 60 6 64 1 47 17 44 22 60 6 63
61 20 46 24 42 7 57 3 62 20 46 23 41 7 57 4
34 15 49 11 53 28 38 32 33 15 49 12 54 28 38 31

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[Count = 368640] OK!

** Calculated and Listed by Kanji Setsuda on
 Sep. 3, 2014 with MacOSX 10.9.4 and Xcode 5.1.1 **

最初に示したフル構成の表の一番右側の解は、真中と同じタイプの正方連結完全八方陣だが、展開基本図を少し変えて出力してある。この右側のタイプも、総数 368640 個を出力する。真中と中身が同じ解集合を、違う順序で同時に出力している。

3. 上図の解 /CC8 が本当に正方連結型完全八方陣かどうか、各部のチェックサムを調べて検証してみたのが、下のリストである。

8本ずつの行列、16本の汎対角線、そして64個の正方連結条件式の和を一々調べて、詳しく表にしてみた。どれもが、想定通り定和に等しかった。

** 六次元二方陣を解いて得た正方連結型完全八方陣の解のリスト(抜粋) **
 【チェックサムを詳しく調べて検査した結果】

1#	Row	Clm	Pd1	Pd2	Composite	Fours
1	63	5	59	38	28	34 32 260 260 \ 260 / 260 130 130 130 130 130 130 130 130 130 130
62	4	58	8	25	39	29 35 260 260 \ 260 / 260 130 130 130 130 130 130 130 130 130 130
9	55	13	51	46	20	42 24 260 260 \ 260 / 260 130 130 130 130 130 130 130 130 130 130
54	12	50	16	17	47	21 43 260 260 \ 260 / 260 130 130 130 130 130 130 130 130 130 130
27	37	31	33	64	2	60 6 260 260 \ 260 / 260 130 130 130 130 130 130 130 130 130 130
40	26	36	30	3	61	7 57 260 260 \ 260 / 260 130 130 130 130 130 130 130 130 130 130
19	45	23	41	56	10	52 14 260 260 \ 260 / 260 130 130 130 130 130 130 130 130 130 130
48	18	44	22	11	53	15 49 260 260 \ 260 / 260 130 130 130 130 130 130 130 130 130 130

3841#	Row	Clm	Pd1	Pd2	Composite	Fours
1	62	2	61	36	31	35 32 260 260 \ 260 / 260 130 130 130 130 130 130 130 130 130 130
60	7	59	8	25	38	26 37 260 260 \ 260 / 260 130 130 130 130 130 130 130 130 130 130
9	54	10	53	44	23	43 24 260 260 \ 260 / 260 130 130 130 130 130 130 130 130 130 130
52	15	51	16	17	46	18 45 260 260 \ 260 / 260 130 130 130 130 130 130 130 130 130 130
29	34	30	33	64	3	63 4 260 260 \ 260 / 260 130 130 130 130 130 130 130 130 130 130
40	27	39	28	5	58	6 57 260 260 \ 260 / 260 130 130 130 130 130 130 130 130 130 130
21	42	22	41	56	11	55 12 260 260 \ 260 / 260 130 130 130 130 130 130 130 130 130 130
48	19	47	20	13	50	14 49 260 260 \ 260 / 260 130 130 130 130 130 130 130 130 130 130

														7297#	Row	CIm	Pd1/Pd2	Composite Fours									
1	61	2	62	36	32	35	31	260	260	260/260	130	130	130	130	130	130	130	130	130	130	130						
60	8	59	7	25	37	26	38	260	260	260/260	130	130	130	130	130	130	130	130	130	130	130						
9	53	10	54	44	24	43	23	260	260	260/260	130	130	130	130	130	130	130	130	130	130	130						
52	16	51	15	17	45	18	46	260	260	260/260	130	130	130	130	130	130	130	130	130	130	130						
29	33	30	34	64	4	63	3	260	260	260/260	130	130	130	130	130	130	130	130	130	130	130						
40	28	39	27	5	57	6	58	260	260	260/260	130	130	130	130	130	130	130	130	130	130	130						
21	41	22	42	56	12	55	11	260	260	260/260	130	130	130	130	130	130	130	130	130	130	130						
48	20	47	19	13	49	14	50	260	260	260/260	130	130	130	130	130	130	130	130	130	130	130						

														8833#	Row	CIm	Pd1/Pd2	Composite Fours									
1	60	2	62	8	61	7	59	260	260	260/260	130	130	130	130	130	130	130	130	130	130	130						
56	13	55	11	49	12	50	14	260	260	260/260	130	130	130	130	130	130	130	130	130	130	130						
17	44	18	46	24	45	23	43	260	260	260/260	130	130	130	130	130	130	130	130	130	130	130						
40	29	39	27	33	28	34	30	260	260	260/260	130	130	130	130	130	130	130	130	130	130	130						
57	4	58	6	64	5	63	3	260	260	260/260	130	130	130	130	130	130	130	130	130	130	130						
16	53	15	51	9	52	10	54	260	260	260/260	130	130	130	130	130	130	130	130	130	130	130						
41	20	42	22	48	21	47	19	260	260	260/260	130	130	130	130	130	130	130	130	130	130	130						
32	37	31	35	25	36	26	38	260	260	260/260	130	130	130	130	130	130	130	130	130	130	130						

														11713#	Row	CIm	Pd1/Pd2	Composite Fours									
1	59	2	61	8	62	7	60	260	260	260/260	130	130	130	130	130	130	130	130	130	130	130						
56	14	55	12	49	11	50	13	260	260	260/260	130	130	130	130	130	130	130	130	130	130	130						
17	43	18	45	24	46	23	44	260	260	260/260	130	130	130	130	130	130	130	130	130	130	130						
40	30	39	28	33	27	34	29	260	260	260/260	130	130	130	130	130	130	130	130	130	130	130						
57	3	58	5	64	6	63	4	260	260	260/260	130	130	130	130	130	130	130	130	130	130	130						
16	54	15	52	9	51	10	53	260	260	260/260	130	130	130	130	130	130	130	130	130	130	130						
41	19	42	21	48	22	47	20	260	260	260/260	130	130	130	130	130	130	130	130	130	130	130						
32	38	31	36	25	35	26	37	260	260	260/260	130	130	130	130	130	130	130	130	130	130	130						

														13057#	Row	CIm	Pd1/Pd2	Composite Fours									
1	58	3	61	8	63	6	60	260	260	260/260	130	130	130	130	130	130	130	130	130	130	130						
56	15	54	12	49	10	51	13	260	260	260/260	130	130	130	130	130	130	130	130	130	130	130						
17	42	19	45	24	47	22	44	260	260	260/260	130	130	130	130	130	130	130	130	130	130	130						
40	31	38	28	33	26	35	29	260	260	260/260	130	130	130	130	130	130	130	130	130	130	130						
57	2	59	5	64	7	62	4	260	260	260/260	130	130	130	130	130	130	130	130	130	130	130						
16	55	14	52	9	50	11	53	260	260	260/260	130	130	130	130	130	130	130	130	130	130	130						
41	18	43	21	48	23	46	20	260	260	260/260	130	130	130	130	130	130	130	130	130	130	130						
32	39	30	36	25	34	27	37	260	260	260/260	130	130	130	130	130	130	130	130	130	130	130						

														14401#	Row	CIm	Pd1/Pd2	Composite Fours									
1	56	2	62	12	61	11	55	260	260	260/260	130	130	130	130	130	130	130	130	130	130	130						
48	25	47	19	37	20	38	26	260	260	260/260	130	130	130	130	130	130	130	130	130	130	130						
5	52	6	58	16	57	15	51	260	260	260/260	130	130	130	130	130	130	130	130	130	130	130						
44	29	43	23	33	24	34	30	260	260	260/260	130	130	130	130	130	130	130	130	130	130	130						
53	4	54	10	64	9	63	3	260	260	260/260	130	130	130	130	130	130	130	130	130	130	130						
28	45	27	39	17	40	18	46	260	260	260/260	130	130	130	130	130	130	130	130	130	130	130						
49	8	50	14	60	13	59	7	260	260	260/260	130	130	130	130	130	130	130	130	130	130	130						
32	41	31	35	21	36	22	42	260	260	260/260	130	130	130	130	130	130	130	130	130	130	130						

														16513#	Row	CIm	Pd1/Pd2	Composite Fours									
1	55	2	61	12	62	11	56	260	260	260/260	130	130	130	130	130	130	130	130	130	130	130						
48	26	47	20	37	19	38	25	260	260	260/260	130	130	130	130	130	130	130	130	130	130	130						
5	51	6	57	16	58	15	52	260	260	260/260	130	130	130	130	130	130	130	130	130	130	130						
44	30	43	24	33	23	34	29	260	260	260/260	130	130	130	130	130	130	130	130	130	130	130						
53	3	54	9	64	10	63	4	260	260	260/260	130	130	130	130	130	130	130	130	130	130	130						
28	46	27	40	17	39	18	45	260	260	260/260	130	130	130	130	130	130	130	130	130	130	130						
49	7	50	13	60	14	59	8	260	260	260/260	130	130	130	130	130	130	130	130	130	130	130						
32	42	31	36	21	35	22	41	260	260	260/260	130	130	130	130	130	130	130	130	130	130	130						

.

次のリストは、チェックサム・エラー型のもの。○が「エラーが無い=定和に等しい」ことを示している。一番最初のリストの右側に出力した解の成否も調べている。

1# R\C\p Composite Fours	5# R\C\p Composite Fours
1 63 5 59 38 28 34 32 0 0\0/0 0 0 0 0 0 0 0 0	1 63 5 59 38 28 34 32 0 0\0/0 0 0 0 0 0 0 0 0
62 4 58 8 25 39 29 35 0 0\0/0 0 0 0 0 0 0 0 0	62 4 58 8 25 39 29 35 0 0\0/0 0 0 0 0 0 0 0 0
9 55 13 51 46 20 42 24 0 0\0/0 0 0 0 0 0 0 0 0	11 53 15 49 48 18 44 22 0 0\0/0 0 0 0 0 0 0 0 0
54 12 50 16 17 47 21 43 0 0\0/0 0 0 0 0 0 0 0 0	56 10 52 14 19 45 23 41 0 0\0/0 0 0 0 0 0 0 0 0
27 37 31 33 64 2 60 6 0 0\0/0 0 0 0 0 0 0 0 0	27 37 31 33 64 2 60 6 0 0\0/0 0 0 0 0 0 0 0 0
40 26 36 30 3 61 7 57 0 0\0/0 0 0 0 0 0 0 0 0	40 26 36 30 3 61 7 57 0 0\0/0 0 0 0 0 0 0 0 0
19 45 23 41 56 10 52 14 0 0\0/0 0 0 0 0 0 0 0 0	17 47 21 43 54 12 50 16 0 0\0/0 0 0 0 0 0 0 0 0
48 18 44 22 11 53 15 49 0 0\0/0 0 0 0 0 0 0 0 0	46 20 42 24 9 55 13 51 0 0\0/0 0 0 0 0 0 0 0 0

3841# R\C\p Composite Fours	3845# R\C\p Composite Fours
1 62 2 61 36 31 35 32 0 0\0/0 0 0 0 0 0 0 0 0	1 62 2 61 36 31 35 32 0 0\0/0 0 0 0 0 0 0 0 0
60 7 59 8 25 38 26 37 0 0\0/0 0 0 0 0 0 0 0 0	60 7 59 8 25 38 26 37 0 0\0/0 0 0 0 0 0 0 0 0
9 54 10 53 44 23 43 24 0 0\0/0 0 0 0 0 0 0 0 0	13 50 14 49 48 19 47 20 0 0\0/0 0 0 0 0 0 0 0 0
52 15 51 16 17 46 18 45 0 0\0/0 0 0 0 0 0 0 0 0	56 11 55 12 21 42 22 41 0 0\0/0 0 0 0 0 0 0 0 0
29 34 30 33 64 3 63 4 0 0\0/0 0 0 0 0 0 0 0 0	29 34 30 33 64 3 63 4 0 0\0/0 0 0 0 0 0 0 0 0
40 27 39 28 5 58 6 57 0 0\0/0 0 0 0 0 0 0 0 0	40 27 39 28 5 58 6 57 0 0\0/0 0 0 0 0 0 0 0 0
21 42 22 41 56 11 55 12 0 0\0/0 0 0 0 0 0 0 0 0	17 46 18 45 52 15 51 16 0 0\0/0 0 0 0 0 0 0 0 0
48 19 47 20 13 50 14 49 0 0\0/0 0 0 0 0 0 0 0 0	44 23 43 24 9 54 10 53 0 0\0/0 0 0 0 0 0 0 0 0

7297# R\C\p Composite Fours	7301# R\C\p Composite Fours
1 61 2 62 36 32 35 31 0 0\0/0 0 0 0 0 0 0 0 0	1 61 2 62 36 32 35 31 0 0\0/0 0 0 0 0 0 0 0 0
60 8 59 7 25 37 26 38 0 0\0/0 0 0 0 0 0 0 0 0	60 8 59 7 25 37 26 38 0 0\0/0 0 0 0 0 0 0 0 0
9 53 10 54 44 24 43 23 0 0\0/0 0 0 0 0 0 0 0 0	13 49 14 50 48 20 47 19 0 0\0/0 0 0 0 0 0 0 0 0
52 16 51 15 17 45 18 46 0 0\0/0 0 0 0 0 0 0 0 0	56 12 55 11 21 41 22 42 0 0\0/0 0 0 0 0 0 0 0 0
29 33 30 34 64 4 63 3 0 0\0/0 0 0 0 0 0 0 0 0	29 33 30 34 64 4 63 3 0 0\0/0 0 0 0 0 0 0 0 0
40 28 39 27 5 57 6 58 0 0\0/0 0 0 0 0 0 0 0 0	40 28 39 27 5 57 6 58 0 0\0/0 0 0 0 0 0 0 0 0
21 41 22 42 56 12 55 11 0 0\0/0 0 0 0 0 0 0 0 0	17 45 18 46 52 16 51 15 0 0\0/0 0 0 0 0 0 0 0 0
48 20 47 19 13 49 14 50 0 0\0/0 0 0 0 0 0 0 0 0	44 24 43 23 9 53 10 54 0 0\0/0 0 0 0 0 0 0 0 0

8833# R\C\p Composite Fours	8835# R\C\p Composite Fours
1 60 2 62 8 61 7 59 0 0\0/0 0 0 0 0 0 0 0 0	1 60 2 62 8 61 7 59 0 0\0/0 0 0 0 0 0 0 0 0
56 13 55 11 49 12 50 14 0 0\0/0 0 0 0 0 0 0 0 0	56 13 55 11 49 12 50 14 0 0\0/0 0 0 0 0 0 0 0 0
17 44 18 46 24 45 23 43 0 0\0/0 0 0 0 0 0 0 0 0	25 36 26 38 32 37 31 35 0 0\0/0 0 0 0 0 0 0 0 0
40 29 39 27 33 28 34 30 0 0\0/0 0 0 0 0 0 0 0 0	48 21 47 19 41 20 42 22 0 0\0/0 0 0 0 0 0 0 0 0
57 4 58 6 64 5 63 3 0 0\0/0 0 0 0 0 0 0 0 0	57 4 58 6 64 5 63 3 0 0\0/0 0 0 0 0 0 0 0 0
16 53 15 51 9 52 10 54 0 0\0/0 0 0 0 0 0 0 0 0	16 53 15 51 9 52 10 54 0 0\0/0 0 0 0 0 0 0 0 0
41 20 42 22 48 21 47 19 0 0\0/0 0 0 0 0 0 0 0 0	33 28 34 30 40 29 39 27 0 0\0/0 0 0 0 0 0 0 0 0
32 37 31 35 25 36 26 38 0 0\0/0 0 0 0 0 0 0 0 0	24 45 23 43 17 44 18 46 0 0\0/0 0 0 0 0 0 0 0 0

11713# R\C\p Composite Fours	11715# R\C\p Composite Fours
1 59 2 61 8 62 7 60 0 0\0/0 0 0 0 0 0 0 0 0	1 59 2 61 8 62 7 60 0 0\0/0 0 0 0 0 0 0 0 0
56 14 55 12 49 11 50 13 0 0\0/0 0 0 0 0 0 0 0 0	56 14 55 12 49 11 50 13 0 0\0/0 0 0 0 0 0 0 0 0
17 43 18 45 24 46 23 44 0 0\0/0 0 0 0 0 0 0 0 0	25 35 26 37 32 38 31 36 0 0\0/0 0 0 0 0 0 0 0 0
40 30 39 28 33 27 34 29 0 0\0/0 0 0 0 0 0 0 0 0	48 22 47 20 41 19 42 21 0 0\0/0 0 0 0 0 0 0 0 0
57 3 58 5 64 6 63 4 0 0\0/0 0 0 0 0 0 0 0 0	57 3 58 5 64 6 63 4 0 0\0/0 0 0 0 0 0 0 0 0
16 54 15 52 9 51 10 53 0 0\0/0 0 0 0 0 0 0 0 0	16 54 15 52 9 51 10 53 0 0\0/0 0 0 0 0 0 0 0 0
41 19 42 21 48 22 47 20 0 0\0/0 0 0 0 0 0 0 0 0	33 27 34 29 40 30 39 28 0 0\0/0 0 0 0 0 0 0 0 0
32 38 31 36 25 35 26 37 0 0\0/0 0 0 0 0 0 0 0 0	24 46 23 44 17 43 18 45 0 0\0/0 0 0 0 0 0 0 0 0

13057# R\C\p Composite Fours	13059# R\C\p Composite Fours
1 58 3 61 8 63 6 60 0 0\0/0 0 0 0 0 0 0 0 0	1 58 3 61 8 63 6 60 0 0\0/0 0 0 0 0 0 0 0 0
56 15 54 12 49 10 51 13 0 0\0/0 0 0 0 0 0 0 0 0	56 15 54 12 49 10 51 13 0 0\0/0 0 0 0 0 0 0 0 0
17 42 19 45 24 47 22 44 0 0\0/0 0 0 0 0 0 0 0 0	25 34 27 37 32 39 30 36 0 0\0/0 0 0 0 0 0 0 0 0
40 31 38 28 33 26 35 29 0 0\0/0 0 0 0 0 0 0 0 0	48 23 46 20 41 18 43 21 0 0\0/0 0 0 0 0 0 0 0 0
57 2 59 5 64 7 62 4 0 0\0/0 0 0 0 0 0 0 0 0	57 2 59 5 64 7 62 4 0 0\0/0 0 0 0 0 0 0 0 0
16 55 14 52 9 50 11 53 0 0\0/0 0 0 0 0 0 0 0 0	16 55 14 52 9 50 11 53 0 0\0/0 0 0 0 0 0 0 0 0
41 18 43 21 48 23 46 20 0 0\0/0 0 0 0 0 0 0 0 0	33 26 35 29 40 31 38 28 0 0\0/0 0 0 0 0 0 0 0 0
32 39 30 36 25 34 27 37 0 0\0/0 0 0 0 0 0 0 0 0	24 47 22 44 17 42 19 45 0 0\0/0 0 0 0 0 0 0 0 0

14401# R\C\p Composite Fours	14403# R\C\p Composite Fours
1 56 2 62 12 61 11 55 0 0\0/0 0 0 0 0 0 0 0 0	1 56 2 62 12 61 11 55 0 0\0/0 0 0 0 0 0 0 0 0
48 25 47 19 37 20 38 26 0 0\0/0 0 0 0 0 0 0 0 0	48 25 47 19 37 20 38 26 0 0\0/0 0 0 0 0 0 0 0 0
5 52 6 58 16 57 15 51 0 0\0/0 0 0 0 0 0 0 0 0	21 36 22 42 32 41 31 35 0 0\0/0 0 0 0 0 0 0 0 0
44 29 43 23 33 24 34 30 0 0\0/0 0 0 0 0 0 0 0 0	60 13 59 7 49 8 50 14 0 0\0/0 0 0 0 0 0 0 0 0
53 4 54 10 64 9 63 3 0 0\0/0 0 0 0 0 0 0 0 0	53 4 54 10 64 9 63 3 0 0\0/0 0 0 0 0 0 0 0 0
28 45 27 39 17 40 18 46 0 0\0/0 0 0 0 0 0 0 0 0	28 45 27 39 17 40 18 46 0 0\0/0 0 0 0 0 0 0 0 0
49 8 50 14 60 13 59 7 0 0\0/0 0 0 0 0 0 0 0 0	33 24 34 30 44 29 43 23 0 0\0/0 0 0 0 0 0 0 0 0
32 41 31 35 21 36 22 42 0 0\0/0 0 0 0 0 0 0 0 0	16 57 15 51 5 52 6 58 0 0\0/0 0 0 0 0 0 0 0 0

(R : 行和, C : 列和, P : 右下がり汎対角線, p : 左下がりに汎対角線, Comp. Four : 正方連結四数の和)

<p>16513# R C\p Composite Fours</p> <p>1 55 2 61 12 62 11 56 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>48 26 47 20 37 19 38 25 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>5 51 6 57 16 58 15 52 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>44 30 43 24 33 23 34 29 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>53 3 54 9 64 10 63 4 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>28 46 27 40 17 39 18 45 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>49 7 50 13 60 14 59 8 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>32 42 31 36 21 35 22 41 0 0\0/0 0 0 0 0 0 0 0 0</p>	<p>16515# R C\p Composite Fours</p> <p>1 55 2 61 12 62 11 56 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>48 26 47 20 37 19 38 25 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>21 35 22 41 32 42 31 36 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>60 14 59 8 49 7 50 13 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>53 3 54 9 64 10 63 4 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>28 46 27 40 17 39 18 45 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>33 23 34 29 44 30 43 24 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>16 58 15 52 5 51 6 57 0 0\0/0 0 0 0 0 0 0 0 0</p>
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<p>17537# R C\p Composite Fours</p> <p>1 54 3 61 12 63 10 56 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>48 27 46 20 37 18 39 25 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>5 50 7 57 16 59 14 52 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>44 31 42 24 33 22 35 29 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>53 2 55 9 64 11 62 4 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>28 47 26 40 17 38 19 45 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>49 6 51 13 60 15 58 8 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>32 43 30 36 21 34 23 41 0 0\0/0 0 0 0 0 0 0 0 0</p>	<p>17539# R C\p Composite Fours</p> <p>1 54 3 61 12 63 10 56 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>48 27 46 20 37 18 39 25 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>21 34 23 41 32 43 30 36 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>60 15 58 8 49 6 51 13 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>53 2 55 9 64 11 62 4 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>28 47 26 40 17 38 19 45 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>33 22 35 29 44 31 42 24 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>16 59 14 52 5 50 7 57 0 0\0/0 0 0 0 0 0 0 0 0</p>
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<p>18561# R C\p Composite Fours</p> <p>1 52 5 59 14 63 10 56 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>48 29 44 22 35 18 39 25 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>3 50 7 57 16 61 12 54 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>46 31 42 24 33 20 37 27 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>51 2 55 9 64 13 60 6 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>30 47 26 40 17 36 21 43 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>49 4 53 11 62 15 58 8 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>32 45 28 38 19 34 23 41 0 0\0/0 0 0 0 0 0 0 0 0</p>	<p>18563# R C\p Composite Fours</p> <p>1 52 5 59 14 63 10 56 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>48 29 44 22 35 18 39 25 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>19 34 23 41 32 45 28 38 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>62 15 58 8 49 4 53 11 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>51 2 55 9 64 13 60 6 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>30 47 26 40 17 36 21 43 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>33 20 37 27 46 31 42 24 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>16 61 12 54 3 50 7 57 0 0\0/0 0 0 0 0 0 0 0 0</p>
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<p>19585# R C\p Composite Fours</p> <p>1 48 2 62 20 61 19 47 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>32 49 31 35 13 36 14 50 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>5 44 6 58 24 57 23 43 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>56 25 55 11 37 12 38 26 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>45 4 46 18 64 17 63 3 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>52 29 51 15 33 16 34 30 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>41 8 42 22 60 21 59 7 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>28 53 27 39 9 40 10 54 0 0\0/0 0 0 0 0 0 0 0 0</p>	<p>19587# R C\p Composite Fours</p> <p>1 48 2 62 20 61 19 47 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>32 49 31 35 13 36 14 50 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>9 40 10 54 28 53 27 39 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>60 21 59 7 41 8 42 22 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>45 4 46 18 64 17 63 3 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>52 29 51 15 33 16 34 30 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>37 12 38 26 56 25 55 11 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>24 57 23 43 5 44 6 58 0 0\0/0 0 0 0 0 0 0 0 0</p>
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<p>20737# R C\p Composite Fours</p> <p>1 47 2 61 20 62 19 48 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>32 50 31 36 13 35 14 49 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>5 43 6 57 24 58 23 44 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>56 26 55 12 37 11 38 25 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>45 3 46 17 64 18 63 4 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>52 30 51 16 33 15 34 29 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>41 7 42 21 60 22 59 8 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>28 54 27 40 9 39 10 53 0 0\0/0 0 0 0 0 0 0 0 0</p>	<p>20739# R C\p Composite Fours</p> <p>1 47 2 61 20 62 19 48 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>32 50 31 36 13 35 14 49 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>9 39 10 53 28 54 27 40 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>60 22 59 8 41 7 42 21 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>45 3 46 17 64 18 63 4 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>52 30 51 16 33 15 34 29 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>37 11 38 25 56 26 55 12 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>24 58 23 44 5 43 6 57 0 0\0/0 0 0 0 0 0 0 0 0</p>
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<p>21313# R C\p Composite Fours</p> <p>1 46 3 61 20 63 18 48 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>32 51 30 36 13 34 15 49 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>5 42 7 57 24 59 22 44 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>56 27 54 12 37 10 39 25 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>45 2 47 17 64 19 62 4 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>52 31 50 16 33 14 35 29 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>41 6 43 21 60 23 58 8 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>28 55 26 40 9 38 11 53 0 0\0/0 0 0 0 0 0 0 0 0</p>	<p>21315# R C\p Composite Fours</p> <p>1 46 3 61 20 63 18 48 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>32 51 30 36 13 34 15 49 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>9 38 11 53 28 55 26 40 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>60 23 58 8 41 6 43 21 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>45 2 47 17 64 19 62 4 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>52 31 50 16 33 14 35 29 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>37 10 39 25 56 27 54 12 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>24 59 22 44 5 42 7 57 0 0\0/0 0 0 0 0 0 0 0 0</p>
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<p>21889# R C\p Composite Fours</p> <p>1 44 5 59 22 63 18 48 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>32 53 28 38 11 34 15 49 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>3 42 7 57 24 61 20 46 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>56 29 52 14 35 10 39 25 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>43 2 47 17 64 21 60 6 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>54 31 50 16 33 12 37 27 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>41 4 45 19 62 23 58 8 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>30 55 26 40 9 36 13 51 0 0\0/0 0 0 0 0 0 0 0 0</p>	<p>21891# R C\p Composite Fours</p> <p>1 44 5 59 22 63 18 48 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>32 53 28 38 11 34 15 49 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>9 36 13 51 30 55 26 40 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>62 23 58 8 41 4 45 19 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>43 2 47 17 64 21 60 6 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>54 31 50 16 33 12 37 27 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>35 10 39 25 56 29 52 14 0 0\0/0 0 0 0 0 0 0 0 0</p> <p>24 61 20 46 3 42 7 57 0 0\0/0 0 0 0 0 0 0 0 0</p>
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(R : 行和, C : 列和, P : 右下がり汎対角線, p : 左下がり汎対角線, Comp. Four : 正方連結四数の和)

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22465#|R|C\p|Composite Fours          22467#|R|C\p|Composite Fours
1 40 9 55 26 63 18 48|0|0\0/0|0 0 0 0 0 0 0 0 1 40 9 55 26 63 18 48|0|0\0/0|0 0 0 0 0 0 0 0
32 57 24 42 7 34 15 49|0|0\0/0|0 0 0 0 0 0 0 0 32 57 24 42 7 34 15 49|0|0\0/0|0 0 0 0 0 0 0 0
3 38 11 53 28 61 20 46|0|0\0/0|0 0 0 0 0 0 0 0 5 36 13 51 30 59 22 44|0|0\0/0|0 0 0 0 0 0 0 0
60 29 52 14 35 6 43 21|0|0\0/0|0 0 0 0 0 0 0 0 62 27 54 12 37 4 45 19|0|0\0/0|0 0 0 0 0 0 0 0
39 2 47 17 64 25 56 10|0|0\0/0|0 0 0 0 0 0 0 0 39 2 47 17 64 25 56 10|0|0\0/0|0 0 0 0 0 0 0 0
58 31 50 16 33 8 41 23|0|0\0/0|0 0 0 0 0 0 0 0 58 31 50 16 33 8 41 23|0|0\0/0|0 0 0 0 0 0 0 0
37 4 45 19 62 27 54 12|0|0\0/0|0 0 0 0 0 0 0 0 35 6 43 21 60 29 52 14|0|0\0/0|0 0 0 0 0 0 0 0
30 59 22 44 5 36 13 51|0|0\0/0|0 0 0 0 0 0 0 0 28 61 20 46 3 38 11 53|0|0\0/0|0 0 0 0 0 0 0 0
. . . (以下省略) . . .

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正方連結型完全八方陣の標準解 368640 個が、確かに得られた。右側のタイプのものも、同じくどれもが正解であった。どんな解の欠落も重複も、どちらにも見られなかった。超立体六次元二方陣を解いて作る新しい構成法の正しさが実証された、と思う。

4. 2つの正方形八方陣は成功したが、最初のリスト中の左端の立方体四方陣 (/CC4) が何物なのかが、問題だ。どのような種類の内容を持つのか。

私自身の願望としては、正方連結型完全立体四方陣を同時に出力させたかったのであるが、どうもそう簡単には問屋が卸さないようだ。

チェック・サムを調べた結果を、少数ではあるがリストにして示す。下図を御覧あれ。立方体四方陣の解では、各行各列各柱の和が必ずしも 130 になっていない。これは「魔方陣」ではない。汎対角線の定和は成り立っている。しかし、正方連結型ではない。

だが、考えてみれば、これは当然の結果だ。我々の最初の想定があくまで平面八方陣だったのだから、当然各行列八数の定和は成り立つわけだが、立方体四方陣の各行各列各柱四数の定和が全部成り立つことまでは保証していなかったからだ。

** 六次元二方陣を解いて得た立方体四方陣の解 (/CC4) **
【チェックサムを詳しく調べて検査した結果】

1#	Row Column & Pillar	Pan-triagonals	Composite Fours
1-----63-----5-----59	128 126 130 132 134	130 130 130 130 130 130 130 130	130 130 126 130 130 134 130
46 20 42 24	130 128 126 130 132	130 130 130 130 130 130 130 130	130 126 130 130 134 130 130
62 52 4 14 58 56 8 10	134 130 132 126 130	130 130 130 130 130 130 130 130	126 130 130 134 130 130 126
17 31--47-33--21--27--43-37	128 134 130 132 126	130 130 130 130 130 130 130 130	130 130 134 130 130 126 130
9 15 55 49 13 11 51 53	130 128 134 130 122	130 130 130 130 130 130 130 130	130 130 134 130 130 126 130 130
38 36 28 30 34 40 32 26	134 130 128 126 130	130 130 130 130 130 130 130 130	134 130 130 126 130 130 134
54-60- 12- 6--50-64--16 2	132 134 130 128 126	130 130 130 130 130 130 130 130	130 130 126 130 130 134 130
25 23 39 41 29 19 35 45	130 128 134 130 132	130 130 130 130 130 130 130 130	132 130 130 132 130 130 132
7 57 3 61	126 130 128 134 130	130 130 130 130 130 130 130 130	130 130 132 130 130 128 130
44-----22-----48-----18	132 126 130	130	130 128 130 130 128 130 130
3841#	Row Column & Pillar	Pan-triagonals	Composite Fours
1-----62-----2-----61	126 122 130 134 138	130 130 130 130 130 130 130 130	130 130 122 130 130 138 130
44 23 43 24	130 126 122 130 134	130 130 130 130 130 130 130 130	130 122 130 130 138 130 130
60 55 7 12 59 56 8 11	138 130 134 122 130	130 130 130 130 130 130 130 130	122 130 130 138 130 130 122
17 30--46-33--18--29--45-34	126 138 130 134 122	130 130 130 130 130 130 130 130	130 130 138 130 130 122 130
9 14 54 49 10 13 53 50	130 126 138 130 134	130 130 130 130 130 130 130 130	130 138 130 130 122 130 130
36 39 31 28 35 40 32 27	138 130 126 122 130	130 130 130 130 130 130 130 130	138 130 130 122 130 130 138
52-63- 15- 4--51-64--16 3	134 138 130 126 122	130 130 130 130 130 130 130 130	130 130 122 130 130 138 130
25 22 38 41 26 21 37 42	130 126 138 130 134	130 130 130 130 130 130 130 130	134 130 130 134 130 130 134
6 57 5 58	122 130 126 138 130	130 130 130 130 130 130 130 130	130 130 134 130 130 126 130
47-----20-----48-----19	134 122 130	130	130 126 130 130 126 130 130
7297#	Row Column & Pillar	Pan-triagonals	Composite Fours
1-----61-----2-----62	126 122 130 134 138	130 130 130 130 130 130 130 130	130 130 122 130 130 138 130
44 24 43 23	130 126 122 130 134	130 130 130 130 130 130 130 130	130 122 130 130 138 130 130
60 55 8 11 59 56 7 12	138 130 134 122 130	130 130 130 130 130 130 130 130	122 130 130 138 130 130 122
17 30--45-34--18--29--46-33	126 138 130 134 122	130 130 130 130 130 130 130 130	130 130 138 130 130 122 130
9 14 53 50 10 13 54 49	130 126 138 130 134	130 130 130 130 130 130 130 130	130 138 130 130 122 130 130
36 39 32 27 35 40 31 28	138 130 126 122 130	130 130 130 130 130 130 130 130	138 130 130 122 130 130 138
52-63- 16- 3--51-64--15 4	134 138 130 126 122	130 130 130 130 130 130 130 130	130 130 122 130 130 138 130
25 22 37 42 26 21 38 41	130 126 138 130 134	130 130 130 130 130 130 130 130	134 130 130 134 130 130 134
6 58 5 57	122 130 126 138 130	130 130 130 130 130 130 130 130	130 130 134 130 130 126 130
47-----19-----48-----20	134 122 130	130	130 126 130 130 126 130 130

8833#										Row Column & Pillar	Pan-triagonals	Composite Fours
1	60	2	62							125 114 130 135 146	130 130 130 130 130 130 130 130 130 130	130 130 114 130 130 146 130
24	45	23	43							130 125 114 130 135	130 130 130 130 130 130 130 130 130 130	130 114 130 130 146 130 130
56	47	13	19	55	48	11	21			146 130 135 114 130	130 130 130 130 130 130 130 130 130 130	114 130 130 146 130 130 114
33	58	28	6	34	57	30	4			125 146 130 135 114	130 130 130 130 130 130 130 130 130 130	130 130 146 130 130 114 130
17	26	44	38	18	25	46	36			130 125 146 130 135	130 130 130 130 130 130 130 130 130 130	130 146 130 130 114 130 130
8	15	61	51	7	16	59	53			146 130 125 114 130	130 130 130 130 130 130 130 130 130 130	146 130 130 114 130 130 146
40	63	29	3	39	64	27	5			135 146 130 125 114	130 130 130 130 130 130 130 130 130 130	130 130 114 130 130 146 130
49	42	12	22	50	41	14	20			130 125 146 130 135	130 130 130 130 130 130 130 130 130 130	135 130 130 135 130 130 135
10	54	9	52							114 130 125 146 130	130 130 130 130 130 130 130 130 130 130	130 130 135 130 130 125 130
31	35	32	37							135 114 130	130	130 125 130 130 125 130 130

11713#										Row Column & Pillar	Pan-triagonals	Composite Fours
1	59	2	61							123 114 130 137 146	130 130 130 130 130 130 130 130 130 130	130 130 114 130 130 146 130
24	46	23	44							130 123 114 130 137	130 130 130 130 130 130 130 130 130 130	130 114 130 130 146 130 130
56	47	14	20	55	48	12	22			146 130 137 114 130	130 130 130 130 130 130 130 130 130 130	114 130 130 146 130 130 114
33	58	27	5	34	57	29	3			123 146 130 137 114	130 130 130 130 130 130 130 130 130 130	130 130 146 130 130 114 130
17	26	43	37	18	25	45	35			130 123 146 130 137	130 130 130 130 130 130 130 130 130 130	130 146 130 130 114 130 130
8	15	62	52	7	16	60	54			146 130 123 114 130	130 130 130 130 130 130 130 130 130 130	146 130 130 114 130 130 146
40	63	30	4	39	64	28	6			137 146 130 123 114	130 130 130 130 130 130 130 130 130 130	130 130 114 130 130 146 130
49	42	11	21	50	41	13	19			130 123 146 130 137	130 130 130 130 130 130 130 130 130 130	137 130 130 137 130 130 137
10	53	9	51							114 130 123 146 130	130 130 130 130 130 130 130 130 130 130	130 130 137 130 130 123 130
31	36	32	38							137 114 130	130	130 123 130 130 123 130 130

しかし、根気良く調べてみると、中には次のような解も見つかる。

53#										Rw CI & PI	Pan-triagonals	Composite Fours
1	63	6	60							0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
48	18	43	21							0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
62	49	4	15	57	54	7	12			0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
19	32	45	34	24	27	42	37			0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
11	14	53	52	16	9	50	55			0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
38	35	28	29	33	40	31	26			0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
56	59	10	5	51	64	13	2			0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
25	22	39	44	30	17	36	47			0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
8	58	3	61							0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
41	23	46	20							0 0 0	0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

157#										Rw CI & PI	Pan-triagonals	Composite Fours
1	63	10	56							0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
48	18	39	25							0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
62	49	4	15	53	58	11	8			0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
19	32	45	34	28	23	38	41			0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
7	14	57	52	16	5	50	59			0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
42	35	24	29	33	44	31	22			0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
60	55	6	9	51	64	13	2			0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
21	26	43	40	30	17	36	47			0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
12	54	3	61							0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
37	27	46	20							0 0 0	0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

261#										Rw CI & PI	Pan-triagonals	Composite Fours
1	63	18	48							0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
56	10	39	25							0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
62	41	4	23	45	58	19	8			0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
11	32	53	34	28	15	38	49			0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
7	22	57	44	24	5	42	59			0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
50	35	16	29	33	52	31	14			0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
60	47	6	17	43	64	21	2			0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
13	26	51	40	30	9	36	55			0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
20	46	3	61							0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
37	27	54	12							0 0 0	0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

これらの例では、何故に立方体四方陣の各行各列各柱四数の定和が成り立つのか？

これは、元になった正方形八方陣に真の原因がある。いわゆる「多重四方陣型」で、あちこちで四数の定和が成り立つタイプだった。そうした場合にこういう奇跡が起きる。

詳しく調べたら、正方連結完全八方陣の解 368640 個の中には「多重四方陣型」が 5760 個含まれていた。僅かに 64 分の 1 の確率だが、それらがこうした奇跡を起こすのだ。

今は、それを知っただけで満足することにしよう。当初の目的である正方連結完全八方陣の標準解 368640 個が全数得られたのだから、それだけで今は良しとしよう。

このタイプが元々他に類縁の魔方陣を持たない「孤立した」巨大解集合であることは、前々からわかっていたことなのだから。

5. では、「奇跡」の多重四方陣型正方連結完全八方陣は、どうやって作ったらよいだろうか。半行・半列の四数の和が必ず 130 になるタイプである。

「四数の和」というのは、六次元二方陣の 8 個の小立方体と親和性が高い。元々から目的方陣として想定されて来たタイプなので、有望だ。早速にも、新しい構成法で試そう。

基本図と定義条件式は、次のようにする。最初のリストと内容が殆ど同じだが、最後の**基本条件式**の与え方だけを少し変えている。

なお、今回作るのは、(1) 正方連結完全立体四方陣、(2) 多重型正方連結完全八方陣、そして (3) 多重型正方連結対称汎八方陣の原始解である。超立体六次元二方陣を解いて一度にこの 3 タイプを同時に作ろうと思う。

[六次元二方陣・三次元四方陣・二次元八方陣の相関基本図]

1	2	3	4	33	34	35	36
17	18	19	20	49	50	51	52
5	6	7	8	37	38	39	40
21	22	23	24	53	54	55	56

9	10	11	12	41	42	43	44
25	26	27	28	57	58	59	60
13	14	15	16	45	46	47	48
29	30	31	32	61	62	63	64

1	2	3	4	/CC4	1/C8M	1/SmI																	
17	18	19	20	1	2	3	4	25	26	27	28	1	2	3	4	18	17	20	19				
5	33	6	34	7	35	8	36	5	6	7	8	29	30	31	32	5	6	7	8	22	21	24	23
21	49	22	50	23	51	24	52	9	10	11	12	17	18	19	20	9	10	11	12	26	25	28	27
9	37	10	38	11	39	12	40	13	14	15	16	21	22	23	24	13	14	15	16	30	29	32	31
25	53	26	54	27	55	28	56	51	52	49	50	43	44	41	42	53	54	55	56	38	37	40	39
13	41	14	42	15	43	16	44	55	56	53	54	47	48	45	46	49	50	51	52	34	33	36	35
29	57	30	58	31	59	32	60	59	60	57	58	35	36	33	34	61	62	63	64	46	45	48	47
45	46	47	48	63	64	61	62	39	40	37	38	57	58	59	60	42	41	44	43				
61	62	63	64																				

[基本図 2]

1	2	3	4	25	26	27	28	1
5	6	7	8	29	30	31	32	5
9	10	11	12	17	18	19	20	9
13	14	15	16	21	22	23	24	13
51	52	49	50	43	44	41	42	51
55	56	53	54	47	48	45	46	55
59	60	57	58	35	36	33	34	59
63	64	61	62	39	40	37	38	63
1	2	3	4	25	26	27	28	1

[定義条件式]

** 正方連結条件式: S=130; **

n1+n2+n5+n6=S	... c1;	n2+n3+n6+n7=S	... c2;
n3+n4+n7+n8=S	... c3;	n4+n25+n8+n29=S	... c4;
n25+n26+n29+n30=S	... c5;	n26+n27+n30+n31=S	... c6;
n27+n28+n31+n32=S	... c7;	n28+n1+n32+n5=S	... c8;
n5+n6+n9+n10=S	... c9;	n6+n7+n10+n11=S	... c10;
n7+n8+n11+n12=S	... c11;	n8+n29+n12+n17=S	... c12;
n29+n30+n17+n18=S	... c13;	n30+n31+n18+n19=S	... c14;
n31+n32+n19+n20=S	... c15;	n32+n5+n20+n9=S	... c16;
n9+n10+n13+n14=S	... c17;	n10+n11+n14+n15=S	... c18;
n11+n12+n15+n16=S	... c19;	n12+n17+n16+n21=S	... c20;
n17+n18+n21+n22=S	... c21;	n18+n19+n22+n23=S	... c22;
n19+n20+n23+n24=S	... c23;	n20+n9+n24+n13=S	... c24;
n13+n14+n51+n52=S	... c25;	n14+n15+n52+n49=S	... c26;
n15+n16+n49+n50=S	... c27;	n16+n21+n50+n43=S	... c28;
n21+n22+n43+n44=S	... c29;	n22+n23+n44+n41=S	... c30;
n23+n24+n41+n42=S	... c31;	n24+n13+n42+n51=S	... c32;
n51+n52+n55+n56=S	... c33;	n52+n49+n56+n53=S	... c34;
n49+n50+n53+n54=S	... c35;	n50+n43+n54+n47=S	... c36;

$n43+n44+n47+n48=S \dots c37;$ $n44+n41+n48+n45=S \dots c38;$ $n41+n42+n45+n46=S \dots c39;$
 $n42+n51+n46+n55=S \dots c40;$ $n55+n56+n59+n60=S \dots c41;$ $n56+n53+n60+n57=S \dots c42;$
 $n53+n54+n57+n58=S \dots c43;$ $n54+n47+n58+n35=S \dots c44;$ $n47+n48+n35+n36=S \dots c45;$
 $n48+n45+n36+n33=S \dots c46;$ $n45+n46+n33+n34=S \dots c47;$ $n46+n55+n34+n59=S \dots c48;$
 $n59+n60+n63+n64=S \dots c49;$ $n60+n57+n64+n61=S \dots c50;$ $n57+n58+n61+n62=S \dots c51;$
 $n58+n35+n62+n39=S \dots c52;$ $n35+n36+n39+n40=S \dots c53;$ $n36+n33+n40+n37=S \dots c54;$
 $n33+n34+n37+n38=S \dots c55;$ $n34+n59+n38+n63=S \dots c56;$ $n63+n64+n1+n2=S \dots c57;$
 $n64+n61+n2+n3=S \dots c58;$ $n61+n62+n3+n4=S \dots c59;$ $n62+n39+n4+n25=S \dots c60;$
 $n39+n40+n25+n26=S \dots c61;$ $n40+n37+n26+n27=S \dots c62;$ $n37+n38+n27+n28=S \dots c63;$
 $n38+n63+n28+n1=S \dots c64;$

**** 完全型補数の条件式: CC=65; ****

$n1+n43=n2+n44=n3+n41=n4+n42=n5+n47=n6+n48=n7+n45=n8+n46=$
 $n9+n35=n10+n36=n11+n33=n12+n34=n13+n39=n14+n40=n15+n37=n16+n38=$
 $n17+n59=n18+n60=n19+n57=n20+n58=n21+n63=n22+n64=n23+n61=n24+n62=$
 $n25+n51=n26+n52=n27+n49=n28+n50=n29+n55=n30+n56=n31+n53=n32+n54=CC;$

**** 基本条件式: SSM=130; LSM=260; ****

$n1+n2+n3+n4=SSM;$ $n25+n26+n27+n28=SSM \dots \text{rows};$
 $n1+n5+n9+n13=SSM;$ $n51+n55+n59+n63=SSM \dots \text{clms};$
 $n1+n6+n11+n16+n43+n48+n33+n38=LSM \dots \text{pd};$

組んだプログラムのリストは、文末に付録として掲げる（英語版で、申し訳ない）。
 様々な「変換」プロセスをプリント・ルーティンの中に予め織り込んでおいたので、
 全体として簡単なプログラムになっている。興味のある人は、ぜひお目通しを。

6. 早速にも得られた解のリストを示そう。抜粋ではあるが、各方陣のリストを掲げる。
 ただし、総数が多い。途中から多重型正方連結完全八方陣だけのリストにした。

**** 六次元二方陣を解いて得た3タイプの目的方陣の解のリスト(抜粋) ****

【原始解: 正方連結完全立体四方陣, 多重型正方連結完全八方陣, 多重型正方連結対称汎八方陣】

1/6dEC02

1---63	6---60	49---15	54---12
48---18	43---21	32---34	27---37
62-- 4	57-- 7	14-- 52	9-- 55
19---45	24---42	35---29	40---26

11---53	16---50	59--- 5	64--- 2
38---28	33---31	22---44	17---47
56-- 10	51-- 13	8-- 58	3-- 61
25---39	30---36	41---23	46---20

1-----63----- 6-----60	/MC4	/CC8	/CSP
48 18 43 21	1 63 6 60 38 28 33 31	1 63 6 60 18 48 21 43	
62 49 4 15 57 54 7 12	62 4 57 7 25 39 30 36	62 4 57 7 45 19 42 24	
19 32---45---34---24---27---42---37	11 53 16 50 48 18 43 21	11 53 16 50 28 38 31 33	
11 14 53 52 16 9 50 55	56 10 51 13 19 45 24 42	56 10 51 13 39 25 36 30	
38 35 28 29 33 40 31 26	27 37 32 34 64 2 59 5	35 29 40 26 52 14 55 9	
56--59-- 10-- 5--51--64--13 2	40 26 35 29 3 61 8 58	32 34 27 37 15 49 12 54	
25 22 39 44 30 17 36 47	17 47 22 44 54 12 49 15	41 23 46 20 58 8 61 3	
8 58 3 61	46 20 41 23 9 55 14 52	22 44 17 47 5 59 2 64	
41-----23-----46-----20			

121/6dEC02

1---62	7---60	49---14	55---12
48---19	42---21	32---35	26---37
63-- 4	57-- 6	15-- 52	9-- 54
18---45	24---43	34---29	40---27

10---53	16---51	58--- 5	64--- 3
39---28	33---30	23---44	17---46
56-- 11	50-- 13	8-- 59	2-- 61
25---38	31---36	41---22	47---20

1-----62-----7-----60	/MC4		/CC8		/CSP
48 19 42 21		1 62 7 60 39 28 33 30		1 62 7 60 19 48 21 42	
63 49 4 14 57 55 6 12		63 4 57 6 25 38 31 36		63 4 57 6 45 18 43 24	
18 32---45---35---24---26---43---37		10 53 16 51 48 19 42 21		10 53 16 51 28 39 30 33	
10 15 53 52 16 9 51 54		56 11 50 13 18 45 24 43		56 11 50 13 38 25 36 31	
39 34 28 29 33 40 30 27		26 37 32 35 64 3 58 5		34 29 40 27 52 15 54 9	
56-58- 11- 5-50-64-13 3		40 27 34 29 2 61 8 59		32 35 26 37 14 49 12 55	
25 23 38 44 31 17 36 46		17 46 23 44 55 12 49 14		41 22 47 20 59 8 61 2	
8 59 2 61		47 20 41 22 9 54 15 52		23 44 17 46 5 58 3 64	
41-----22-----47-----20					

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1---60	7---62	49---12	55---14
48---21 42---19 32---37 26---35			
63-- 6 57-- 4 15-- 54 9-- 52			
18---43	24---45	34---27	40---29
10---51	16---53	58--- 3	64--- 5
39---30 33---28 23---46 17---44			
56-- 13 50-- 11 8-- 61 2-- 59			
25---36	31---38	41---20	47---22

1-----60-----7-----62	/MC4		/CC8		/CSP
48 21 42 19		1 60 7 62 39 30 33 28		1 60 7 62 21 48 19 42	
63 49 6 12 57 55 4 14		63 6 57 4 25 36 31 38		63 6 57 4 43 18 45 24	
18 32---43---37---24---26---45---35		10 51 16 53 48 21 42 19		10 51 16 53 30 39 28 33	
10 15 51 54 16 9 53 52		56 13 50 11 18 43 24 45		56 13 50 11 36 25 38 31	
39 34 30 27 33 40 28 29		26 35 32 37 64 5 58 3		34 27 40 29 54 15 52 9	
56-58- 13- 3-50-64-11 5		40 29 34 27 2 59 8 61		32 37 26 35 12 49 14 55	
25 23 36 46 31 17 38 44		17 44 23 46 55 14 49 12		41 20 47 22 61 8 59 2	
8 61 2 59		47 22 41 20 9 52 15 54		23 46 17 44 3 58 5 64	
41-----20-----47-----22					

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1---56	11---62	49--- 8	59---14
48---25 38---19 32---41 22---35			
63-- 10 53-- 4 15-- 58 5-- 52			
18---39	28---45	34---23	44---29
6---51	16---57	54--- 3	64--- 9
43---30 33---24 27---46 17---40			
60-- 13 50-- 7 12-- 61 2-- 55			
21---36	31---42	37---20	47---26

1-----56-----11-----62	/MC4		/CC8		/CSP
48 25 38 19		1 56 11 62 43 30 33 24		1 56 11 62 25 48 19 38	
63 49 10 8 53 59 4 14		63 10 53 4 21 36 31 42		63 10 53 4 39 18 45 28	
18 32---39---41---28---22---45---35		6 51 16 57 48 25 38 19		6 51 16 57 30 43 24 33	
6 15 51 58 16 5 57 52		60 13 50 7 18 39 28 45		60 13 50 7 36 21 42 31	
43 34 30 23 33 44 24 29		22 35 32 41 64 9 54 3		34 23 44 29 58 15 52 5	
60-54- 13- 3-50-64- 7 9		44 29 34 23 2 55 12 61		32 41 22 35 8 49 14 59	
21 27 36 46 31 17 42 40		17 40 27 46 59 14 49 8		37 20 47 26 61 12 55 2	
12 61 2 55		47 26 37 20 5 52 15 58		27 46 17 40 3 54 9 64	
37-----20-----47-----26					

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1---48	19---62	41--- 8	59---22
56---25 38---11 32---49 14---35			
63-- 18 45-- 4 23-- 58 5-- 44			
10---39	28---53	34---15	52---29
6---43	24---57	46--- 3	64---17
51---30 33---16 27---54 9---40			
60-- 21 42-- 7 20-- 61 2-- 47			
13---36	31---50	37---12	55---26

1-----48-----19-----62 /MC4	/CC8	/CSP
56 25 38 11	1 48 19 62 51 30 33 16	1 48 19 62 25 56 11 38
63 41 18 8 45 59 4 22	63 18 45 4 13 36 31 50	63 18 45 4 39 10 53 28
10 32--39--49--28--14--53--35	6 43 24 57 56 25 38 11	6 43 24 57 30 51 16 33
6 23 43 58 24 5 57 44	60 21 42 7 10 39 28 53	60 21 42 7 36 13 50 31
51 34 30 15 33 52 16 29	14 35 32 49 64 17 46 3	34 15 52 29 58 23 44 5
60-46- 21- 3--42-64-- 7 17	52 29 34 15 2 47 20 61	32 49 14 35 8 41 22 59
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** Calculated and Listed by Kanji Setsuda
on Nov. 13, 2013 with Apple OSX 10.9 and Xcode 5.0.2 **

3つのタイプの解のどれもが「正解」であった。
しかし、「標準解」レベルでは、変なことが度々起きる。「正規化条件」が3つとも違うからだ。それに抵触せざるを得ない。解の総数も、960個、5760個、5760個と違う。
ここは、正規化以前の「原始解」を出力するのみ。そうすれば矛盾が無くなる。
その代償として解の総数がやたらと増え、3つとも同じ46080個になった。

7. 出来た3タイプの解をチェックして、どれもが「正解」であることが確かめられた。

** 六次元二方陣を解いて得た多重型正方連結完全八方陣のリスト(抜粋) **
【原始解：チェックサムを詳しく調べて検査した結果】

1#	Rw1+Rw2	C11+C12	Pd1/Pd2	Composite	Fours
1	63	6 60 38 28 33 31	130+130 130+130\260/260	130	130 130 130 130 130 130 130
62	4 57	7 25 39 30 36	130+130 130+130\260/260	130	130 130 130 130 130 130 130
11	53 16	50 48 18 43 21	130+130 130+130\260/260	130	130 130 130 130 130 130 130
56	10 51	13 19 45 24 42	130+130 130+130\260/260	130	130 130 130 130 130 130 130
27	37 32	34 64 2 59 5	130+130 130+130\260/260	130	130 130 130 130 130 130 130
40	26 35	29 3 61 8 58	130+130 130+130\260/260	130	130 130 130 130 130 130 130
17	47 22	44 54 12 49 15	130+130 130+130\260/260	130	130 130 130 130 130 130 130
46	20 41	23 9 55 14 52	130+130 130+130\260/260	130	130 130 130 130 130 130 130

121# |Rw1+Rw2 |C11+C12\Pd1/Pd2 |Composite Fours
 1 62 7 60 39 28 33 30 |130+130 |130+130\260/260 |130 130 130 130 130 130 130
 63 4 57 6 25 38 31 36 |130+130 |130+130\260/260 |130 130 130 130 130 130 130
 10 53 16 51 48 19 42 21 |130+130 |130+130\260/260 |130 130 130 130 130 130 130
 56 11 50 13 18 45 24 43 |130+130 |130+130\260/260 |130 130 130 130 130 130 130
 26 37 32 35 64 3 58 5 |130+130 |130+130\260/260 |130 130 130 130 130 130 130
 40 27 34 29 2 61 8 59 |130+130 |130+130\260/260 |130 130 130 130 130 130 130
 17 46 23 44 55 12 49 14 |130+130 |130+130\260/260 |130 130 130 130 130 130 130
 47 20 41 22 9 54 15 52 |130+130 |130+130\260/260 |130 130 130 130 130 130 130

241# |Rw1+Rw2 |C11+C12\Pd1/Pd2 |Composite Fours
 1 60 7 62 39 30 33 28 |130+130 |130+130\260/260 |130 130 130 130 130 130 130
 63 6 57 4 25 36 31 38 |130+130 |130+130\260/260 |130 130 130 130 130 130 130
 10 51 16 53 48 21 42 19 |130+130 |130+130\260/260 |130 130 130 130 130 130 130
 56 13 50 11 18 43 24 45 |130+130 |130+130\260/260 |130 130 130 130 130 130 130
 26 35 32 37 64 5 58 3 |130+130 |130+130\260/260 |130 130 130 130 130 130 130
 40 29 34 27 2 59 8 61 |130+130 |130+130\260/260 |130 130 130 130 130 130 130
 17 44 23 46 55 14 49 12 |130+130 |130+130\260/260 |130 130 130 130 130 130 130
 47 22 41 20 9 52 15 54 |130+130 |130+130\260/260 |130 130 130 130 130 130 130

361# |Rw1+Rw2 |C11+C12\Pd1/Pd2 |Composite Fours
 1 56 11 62 43 30 33 24 |130+130 |130+130\260/260 |130 130 130 130 130 130 130
 63 10 53 4 21 36 31 42 |130+130 |130+130\260/260 |130 130 130 130 130 130 130
 6 51 16 57 48 25 38 19 |130+130 |130+130\260/260 |130 130 130 130 130 130 130
 60 13 50 7 18 39 28 45 |130+130 |130+130\260/260 |130 130 130 130 130 130 130
 22 35 32 41 64 9 54 3 |130+130 |130+130\260/260 |130 130 130 130 130 130 130
 44 29 34 23 2 55 12 61 |130+130 |130+130\260/260 |130 130 130 130 130 130 130
 17 40 27 46 59 14 49 8 |130+130 |130+130\260/260 |130 130 130 130 130 130 130
 47 26 37 20 5 52 15 58 |130+130 |130+130\260/260 |130 130 130 130 130 130 130

481# |Rw1+Rw2 |C11+C12\Pd1/Pd2 |Composite Fours
 1 48 19 62 51 30 33 16 |130+130 |130+130\260/260 |130 130 130 130 130 130 130
 63 18 45 4 13 36 31 50 |130+130 |130+130\260/260 |130 130 130 130 130 130 130
 6 43 24 57 56 25 38 11 |130+130 |130+130\260/260 |130 130 130 130 130 130 130
 60 21 42 7 10 39 28 53 |130+130 |130+130\260/260 |130 130 130 130 130 130 130
 14 35 32 49 64 17 46 3 |130+130 |130+130\260/260 |130 130 130 130 130 130 130
 52 29 34 15 2 47 20 61 |130+130 |130+130\260/260 |130 130 130 130 130 130 130
 9 40 27 54 59 22 41 8 |130+130 |130+130\260/260 |130 130 130 130 130 130 130
 55 26 37 12 5 44 23 58 |130+130 |130+130\260/260 |130 130 130 130 130 130 130

601# |Rw1+Rw2 |C11+C12\Pd1/Pd2 |Composite Fours
 1 32 35 62 51 46 17 16 |130+130 |130+130\260/260 |130 130 130 130 130 130 130
 63 34 29 4 13 20 47 50 |130+130 |130+130\260/260 |130 130 130 130 130 130 130
 6 27 40 57 56 41 22 11 |130+130 |130+130\260/260 |130 130 130 130 130 130 130
 60 37 26 7 10 23 44 53 |130+130 |130+130\260/260 |130 130 130 130 130 130 130
 14 19 48 49 64 33 30 3 |130+130 |130+130\260/260 |130 130 130 130 130 130 130
 52 45 18 15 2 31 36 61 |130+130 |130+130\260/260 |130 130 130 130 130 130 130
 9 24 43 54 59 38 25 8 |130+130 |130+130\260/260 |130 130 130 130 130 130 130
 55 42 21 12 5 28 39 58 |130+130 |130+130\260/260 |130 130 130 130 130 130 130

721# |Rw1+Rw2 |C11+C12\Pd1/Pd2 |Composite Fours
 2 64 5 59 37 27 34 32 |130+130 |130+130\260/260 |130 130 130 130 130 130 130
 61 3 58 8 26 40 29 35 |130+130 |130+130\260/260 |130 130 130 130 130 130 130
 12 54 15 49 47 17 44 22 |130+130 |130+130\260/260 |130 130 130 130 130 130 130
 55 9 52 14 20 46 23 41 |130+130 |130+130\260/260 |130 130 130 130 130 130 130
 28 38 31 33 63 1 60 6 |130+130 |130+130\260/260 |130 130 130 130 130 130 130
 39 25 36 30 4 62 7 57 |130+130 |130+130\260/260 |130 130 130 130 130 130 130
 18 48 21 43 53 11 50 16 |130+130 |130+130\260/260 |130 130 130 130 130 130 130
 45 19 42 24 10 56 13 51 |130+130 |130+130\260/260 |130 130 130 130 130 130 130

1441# |Rw1+Rw2 |C11+C12\Pd1/Pd2 |Composite Fours
 3 64 5 58 37 26 35 32 |130+130 |130+130\260/260 |130 130 130 130 130 130 130
 61 2 59 8 27 40 29 34 |130+130 |130+130\260/260 |130 130 130 130 130 130 130
 12 55 14 49 46 17 44 23 |130+130 |130+130\260/260 |130 130 130 130 130 130 130
 54 9 52 15 20 47 22 41 |130+130 |130+130\260/260 |130 130 130 130 130 130 130
 28 39 30 33 62 1 60 7 |130+130 |130+130\260/260 |130 130 130 130 130 130 130
 38 25 36 31 4 63 6 57 |130+130 |130+130\260/260 |130 130 130 130 130 130 130
 19 48 21 42 53 10 51 16 |130+130 |130+130\260/260 |130 130 130 130 130 130 130
 45 18 43 24 11 56 13 50 |130+130 |130+130\260/260 |130 130 130 130 130 130 130

2161# |Rw1+Rw2|C11+C12\Pd1/Pd2|Composite Fours
 4 63 6 57 38 25 36 31 |130+130|130+130\260/260|130 130 130 130 130 130 130 130
 62 1 60 7 28 39 30 33 |130+130|130+130\260/260|130 130 130 130 130 130 130 130
 11 56 13 50 45 18 43 24 |130+130|130+130\260/260|130 130 130 130 130 130 130 130
 53 10 51 16 19 48 21 42 |130+130|130+130\260/260|130 130 130 130 130 130 130 130
 27 40 29 34 61 2 59 8 |130+130|130+130\260/260|130 130 130 130 130 130 130 130
 37 26 35 32 3 64 5 58 |130+130|130+130\260/260|130 130 130 130 130 130 130 130
 20 47 22 41 54 9 52 15 |130+130|130+130\260/260|130 130 130 130 130 130 130 130
 46 17 44 23 12 55 14 49 |130+130|130+130\260/260|130 130 130 130 130 130 130 130

2881# |Rw1+Rw2|C11+C12\Pd1/Pd2|Composite Fours
 5 64 3 58 35 26 37 32 |130+130|130+130\260/260|130 130 130 130 130 130 130 130
 59 2 61 8 29 40 27 34 |130+130|130+130\260/260|130 130 130 130 130 130 130 130
 14 55 12 49 44 17 46 23 |130+130|130+130\260/260|130 130 130 130 130 130 130 130
 52 9 54 15 22 47 20 41 |130+130|130+130\260/260|130 130 130 130 130 130 130 130
 30 39 28 33 60 1 62 7 |130+130|130+130\260/260|130 130 130 130 130 130 130 130
 36 25 38 31 6 63 4 57 |130+130|130+130\260/260|130 130 130 130 130 130 130 130
 21 48 19 42 51 10 53 16 |130+130|130+130\260/260|130 130 130 130 130 130 130 130
 43 18 45 24 13 56 11 50 |130+130|130+130\260/260|130 130 130 130 130 130 130 130

.

下のリストは、三次元の**正方連結完全立体四方陣**の全行・全列・全柱の和，汎対角線の和，そして**正方連結四数**の和をチェックした結果である。

○が，エラーが無い（=定和に等しい）ことを示している。

**** 六次元二方陣を解いて得た三次元正方連結完全立体四方陣の解のリスト(抜粋) ****

【原始解：チェックサム・エラーを詳しく調べて検査した結果】

1# CS|Rw, Cl, &Pl|Pantriagonals|Composite Fours
 1-----63----- 6-----60 |0 0 0 0 0|0 0 0 0 0 0 0 0|0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 |48 18 43 |21 |0 0 0 0 0|0 0 0 0 0 0 0 0|0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 62 49 4 15 57 54 7 12 |0 0 0 0 0|0 0 0 0 0 0 0 0|0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 |19 32---45---34---24---27---42---37 |0 0 0 0 0|0 0 0 0 0 0 0 0|0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 11 14 |53 52 16 9 50 55 |0 0 0 0 0|0 0 0 0 0 0 0 0|0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 |38 35 28 29 33 40 |31 26 |0 0 0 0 0|0 0 0 0 0 0 0 0|0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 56-59-|-10- 5--51-64--13 2 |0 0 0 0 0|0 0 0 0 0 0 0 0|0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 25 22 39 44 30 17 36 47 |0 0 0 0 0|0 0 0 0 0 0 0 0|0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 8 | 58 3 61 |0 0 0 0 0|0 0 0 0 0 0 0 0|0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 41-----23-----46-----20 |0 0 0 |0 |0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

121# CS|Rw, Cl, &Pl|Pantriagonals|Composite Fours
 1-----62----- 7-----60 |0 0 0 0 0|0 0 0 0 0 0 0 0|0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 |48 19 42 |21 |0 0 0 0 0|0 0 0 0 0 0 0 0|0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 63 49 4 14 57 55 6 12 |0 0 0 0 0|0 0 0 0 0 0 0 0|0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 |18 32---45---35---24---26---43---37 |0 0 0 0 0|0 0 0 0 0 0 0 0|0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 10 15 |53 52 16 9 51 54 |0 0 0 0 0|0 0 0 0 0 0 0 0|0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 |39 34 28 29 33 40 |30 27 |0 0 0 0 0|0 0 0 0 0 0 0 0|0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 56-58-|-11- 5--50-64--13 3 |0 0 0 0 0|0 0 0 0 0 0 0 0|0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 25 23 38 44 31 17 36 46 |0 0 0 0 0|0 0 0 0 0 0 0 0|0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 8 | 59 2 61 |0 0 0 0 0|0 0 0 0 0 0 0 0|0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 41-----22-----47-----20 |0 0 0 |0 |0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

241# CS|Rw, Cl, &Pl|Pantriagonals|Composite Fours
 1-----60----- 7-----62 |0 0 0 0 0|0 0 0 0 0 0 0 0|0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 |48 21 42 |19 |0 0 0 0 0|0 0 0 0 0 0 0 0|0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 63 49 6 12 57 55 4 14 |0 0 0 0 0|0 0 0 0 0 0 0 0|0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 |18 32---43---37---24---26---45---35 |0 0 0 0 0|0 0 0 0 0 0 0 0|0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 10 15 |51 54 16 9 53 52 |0 0 0 0 0|0 0 0 0 0 0 0 0|0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 |39 34 30 27 33 40 |28 29 |0 0 0 0 0|0 0 0 0 0 0 0 0|0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 56-58-|-13- 3--50-64--11 5 |0 0 0 0 0|0 0 0 0 0 0 0 0|0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 25 23 36 46 31 17 38 44 |0 0 0 0 0|0 0 0 0 0 0 0 0|0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 8 | 61 2 59 |0 0 0 0 0|0 0 0 0 0 0 0 0|0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 41-----20-----47-----22 |0 0 0 |0 |0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

361#				CS	Rw, Cl, & Pl	Pantriagonals	Composite Fours
1	56	11	62	0	0	0	0
48	25	38	19	0	0	0	0
63 49	10 8	53 59	4 14	0	0	0	0
18 32	39 41	28 22	45 35	0	0	0	0
6 15	51 58	16 5	57 52	0	0	0	0
43 34	30 23	33 44	24 29	0	0	0	0
60 54	13 3	50 64	7 9	0	0	0	0
21 27	36 46	31 17	42 40	0	0	0	0
12	61	2	55	0	0	0	0
37	20	47	26	0	0	0	0

481#				CS	Rw, Cl, & Pl	Pantriagonals	Composite Fours
1	48	19	62	0	0	0	0
56	25	38	11	0	0	0	0
63 41	18 8	45 59	4 22	0	0	0	0
10 32	39 49	28 14	53 35	0	0	0	0
6 23	43 58	24 5	57 44	0	0	0	0
51 34	30 15	33 52	16 29	0	0	0	0
60 46	21 3	42 64	7 17	0	0	0	0
13 27	36 54	31 9	50 40	0	0	0	0
20	61	2	47	0	0	0	0
37	12	55	26	0	0	0	0

601#				CS	Rw, Cl, & Pl	Pantriagonals	Composite Fours
1	32	35	62	0	0	0	0
56	41	22	11	0	0	0	0
63 25	34 8	29 59	4 38	0	0	0	0
10 48	23 49	44 14	53 19	0	0	0	0
6 39	27 58	40 5	57 28	0	0	0	0
51 18	46 15	17 52	16 45	0	0	0	0
60 30	37 3	26 64	7 33	0	0	0	0
13 43	20 54	47 9	50 24	0	0	0	0
36	61	2	31	0	0	0	0
21	12	55	42	0	0	0	0

721#				CS	Rw, Cl, & Pl	Pantriagonals	Composite Fours
2	64	5	59	0	0	0	0
47	17	44	22	0	0	0	0
61 50	3 16	58 53	8 11	0	0	0	0
20 31	46 33	23 28	41 38	0	0	0	0
12 13	54 51	15 10	49 56	0	0	0	0
37 36	27 30	34 39	32 25	0	0	0	0
55 60	9 6	52 63	14 1	0	0	0	0
26 21	40 43	29 18	35 48	0	0	0	0
7	57	4	62	0	0	0	0
42	24	45	19	0	0	0	0

1441#				CS	Rw, Cl, & Pl	Pantriagonals	Composite Fours
3	64	5	58	0	0	0	0
46	17	44	23	0	0	0	0
61 51	2 16	59 53	8 10	0	0	0	0
20 30	47 33	22 28	41 39	0	0	0	0
12 13	55 50	14 11	49 56	0	0	0	0
37 36	26 31	35 38	32 25	0	0	0	0
54 60	9 7	52 62	15 1	0	0	0	0
27 21	40 42	29 19	34 48	0	0	0	0
6	57	4	63	0	0	0	0
43	24	45	18	0	0	0	0

もう一つの正方形八方陣の場合も、特にチェックサム・モニターを付けたリストを以下に示す。想定通りの解が出来ていることを確かめてほしい。

これら3タイプの解が、一度に出来てしまうのである。新構成法の特長だ。

**** 六次元二方陣を解いて得た多重型正方連結対称汎八方陣の解のリスト(抜粋) ****

【原始解：チェックサムを詳しく調べて検査した結果】

1#|Rw1+Rw2|C11+C12\Pd1/Pd2|Composite Fours
 1 63 6 60 18 48 21 43|130+130|130+130\260/260|130 130 130 130 130 130 130 130
 62 4 57 7 45 19 42 24|130+130|130+130\260/260|130 130 130 130 130 130 130 130
 11 53 16 50 28 38 31 33|130+130|130+130\260/260|130 130 130 130 130 130 130 130
 56 10 51 13 39 25 36 30|130+130|130+130\260/260|130 130 130 130 130 130 130 130
 35 29 40 26 52 14 55 9|130+130|130+130\260/260|130 130 130 130 130 130 130 130
 32 34 27 37 15 49 12 54|130+130|130+130\260/260|130 130 130 130 130 130 130 130
 41 23 46 20 58 8 61 3|130+130|130+130\260/260|130 130 130 130 130 130 130 130
 22 44 17 47 5 59 2 64|130+130|130+130\260/260|130 130 130 130 130 130 130 130

121#|Rw1+Rw2|C11+C12\Pd1/Pd2|Composite Fours
 1 62 7 60 19 48 21 42|130+130|130+130\260/260|130 130 130 130 130 130 130 130
 63 4 57 6 45 18 43 24|130+130|130+130\260/260|130 130 130 130 130 130 130 130
 10 53 16 51 28 39 30 33|130+130|130+130\260/260|130 130 130 130 130 130 130 130
 56 11 50 13 38 25 36 31|130+130|130+130\260/260|130 130 130 130 130 130 130 130
 34 29 40 27 52 15 54 9|130+130|130+130\260/260|130 130 130 130 130 130 130 130
 32 35 26 37 14 49 12 55|130+130|130+130\260/260|130 130 130 130 130 130 130 130
 41 22 47 20 59 8 61 2|130+130|130+130\260/260|130 130 130 130 130 130 130 130
 23 44 17 46 5 58 3 64|130+130|130+130\260/260|130 130 130 130 130 130 130 130

241#|Rw1+Rw2|C11+C12\Pd1/Pd2|Composite Fours
 1 60 7 62 21 48 19 42|130+130|130+130\260/260|130 130 130 130 130 130 130 130
 63 6 57 4 43 18 45 24|130+130|130+130\260/260|130 130 130 130 130 130 130 130
 10 51 16 53 30 39 28 33|130+130|130+130\260/260|130 130 130 130 130 130 130 130
 56 13 50 11 36 25 38 31|130+130|130+130\260/260|130 130 130 130 130 130 130 130
 34 27 40 29 54 15 52 9|130+130|130+130\260/260|130 130 130 130 130 130 130 130
 32 37 26 35 12 49 14 55|130+130|130+130\260/260|130 130 130 130 130 130 130 130
 41 20 47 22 61 8 59 2|130+130|130+130\260/260|130 130 130 130 130 130 130 130
 23 46 17 44 3 58 5 64|130+130|130+130\260/260|130 130 130 130 130 130 130 130

361#|Rw1+Rw2|C11+C12\Pd1/Pd2|Composite Fours
 1 56 11 62 25 48 19 38|130+130|130+130\260/260|130 130 130 130 130 130 130 130
 63 10 53 4 39 18 45 28|130+130|130+130\260/260|130 130 130 130 130 130 130 130
 6 51 16 57 30 43 24 33|130+130|130+130\260/260|130 130 130 130 130 130 130 130
 60 13 50 7 36 21 42 31|130+130|130+130\260/260|130 130 130 130 130 130 130 130
 34 23 44 29 58 15 52 5|130+130|130+130\260/260|130 130 130 130 130 130 130 130
 32 41 22 35 8 49 14 59|130+130|130+130\260/260|130 130 130 130 130 130 130 130
 37 20 47 26 61 12 55 2|130+130|130+130\260/260|130 130 130 130 130 130 130 130
 27 46 17 40 3 54 9 64|130+130|130+130\260/260|130 130 130 130 130 130 130 130

481#|Rw1+Rw2|C11+C12\Pd1/Pd2|Composite Fours
 1 48 19 62 25 56 11 38|130+130|130+130\260/260|130 130 130 130 130 130 130 130
 63 18 45 4 39 10 53 28|130+130|130+130\260/260|130 130 130 130 130 130 130 130
 6 43 24 57 30 51 16 33|130+130|130+130\260/260|130 130 130 130 130 130 130 130
 60 21 42 7 36 13 50 31|130+130|130+130\260/260|130 130 130 130 130 130 130 130
 34 15 52 29 58 23 44 5|130+130|130+130\260/260|130 130 130 130 130 130 130 130
 32 49 14 35 8 41 22 59|130+130|130+130\260/260|130 130 130 130 130 130 130 130
 37 12 55 26 61 20 47 2|130+130|130+130\260/260|130 130 130 130 130 130 130 130
 27 54 9 40 3 46 17 64|130+130|130+130\260/260|130 130 130 130 130 130 130 130

601#|Rw1+Rw2|C11+C12\Pd1/Pd2|Composite Fours
 1 32 35 62 41 56 11 22|130+130|130+130\260/260|130 130 130 130 130 130 130 130
 63 34 29 4 23 10 53 44|130+130|130+130\260/260|130 130 130 130 130 130 130 130
 6 27 40 57 46 51 16 17|130+130|130+130\260/260|130 130 130 130 130 130 130 130
 60 37 26 7 20 13 50 47|130+130|130+130\260/260|130 130 130 130 130 130 130 130
 18 15 52 45 58 39 28 5|130+130|130+130\260/260|130 130 130 130 130 130 130 130
 48 49 14 19 8 25 38 59|130+130|130+130\260/260|130 130 130 130 130 130 130 130
 21 12 55 42 61 36 31 2|130+130|130+130\260/260|130 130 130 130 130 130 130 130
 43 54 9 24 3 30 33 64|130+130|130+130\260/260|130 130 130 130 130 130 130 130

.....

では、どうして一度に3タイプの魔方陣が正しく出力できたのか？
 理由は、2つある。変換プロセスが適確であったこと。そして、この3タイプは元々が「近親類縁」の魔方陣群だったからである。このことは、第4部第7章で論じている。

8. では、他方の三次元立方体の正方連結完全四方陣からも、或いは二次元正方形の正方連結対称汎八方陣からも、同じように一度に3タイプを作ることができるだろうか？

我々は、六次元超立体二方陣を作ってそれを次元変換しながら3タイプの魔方陣を取り出しているのだから、当然できるはずだ。

ここはぜひ自分で実験して検証することにしよう。

そして、この3タイプの資格の「平等性」を改めて確かめてみることにしたい。

だが、肝心の紙数が予定を既にオーバーしてしまった。その報告は次節にしたい。ぜひ続けて第4-2節をお目通しいただきたい。今はそうお願い申し上げますのみ。

(最新稿初稿 : Written on Nov. 15, 2013; 最新改訂稿 : on Sep. 5, 2014;

Working with MacOSX 10.9.4 and Xcode 5.1.1;

計算・作図・著述 by 摂田 寛二(Kanji Setsuda))

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【プログラムのリスト】

```
/** Make the 6-dimensional Extra-Cubic Magic Objects of Order 2 and **
/** Transform them into 2D 'Composite & Complete' Magic Squares 8x8 **
/** File: 'EC026CC88.c' Dictated by Kanji Setsuda in 2005; **
/** and on Sep. 3, 2014 with MacOSX 10.9.4 and Xcode 5.1.1 **
//
#include <stdio.h>
//
/** Variables *
long int cnt;
short cnt2, cnt3;
short CC, SSM, LSM;
short nm[65], flg[65];
//
/** Sub-Routines *
void stp01(void), stp02(void), stp03(void), stp04(void), stp05(void);
void stp06(void), stp07(void), stp08(void), stp09(void), stp10(void);
void stp11(void), stp12(void), stp13(void), stp14(void), stp15(void);
void stp16(void), stp17(void), stp18(void), stp19(void), stp20(void);
void stp21(void), stp22(void), stp23(void), stp24(void), stp25(void);
void stp26(void), stp27(void), stp28(void), stp29(void), stp30(void);
void stp31(void), stp32(void), stp33(void);
void ans26print(void), pr1pat26(void), pr2pat26(void);
//
/** Main Program *
int main(){
short n;
printf("\n");
printf("*** Make the 6-Dimensional Extra-Cubic Magic Objects of Order 2\n");
printf("    and Transform each of them into 2 types of Magic Objects:\n");
printf("        3D MC444, 2D 'C&C' Type of Magic Squares of Order 8; **\n");
printf("        [Abstract List of Standard Solutions in compact style]\n");
printf("\n");
for(n=0;n<65;n++){nm[n]=0; flg[n]=0;}
CC=65; SSM=130; LSM=260; cnt=0; cnt3=0;
stp01();          /** Begin the Calculation *
printf(" [Count = %ld] OK!\n",cnt);
printf("\n");
printf("*** Calculated and Listed by Kanji Setsuda on\n");
printf("    Sep. 3, 2014 with MacOSX 10.9.4 and Xcode 5.1.1 **\n");
printf("\n");
return 0;
}
//
```

```

/** Begin the Search *
/** Set n1 & n43 *
void stp01(){
  short a,b;
  for(a=1;a<33;a++){b=CC-a;
    if((flg[a]==0)&&(flg[b]==0)){cnt2=0;
      nm[1]=a; nm[43]=b;
      flg[a]=1; flg[b]=1;
      stp02();
      flg[b]=0; flg[a]=0;}
  }
}
/** Set n2 & n44 *
void stp02(){
  short a,b;
  for(a=64;a>0;a--){b=CC-a;
    if((flg[a]==0)&&(flg[b]==0)){if(nm[1]==1){cnt2=0;}
      nm[2]=a; nm[44]=b;
      flg[a]=1; flg[b]=1;
      stp03();
      flg[b]=0; flg[a]=0;}
  }
}
/** Set n5(<n2) & n47 *
void stp03(){
  short a,b;
  for(a=nm[2]-1;a>0;a--){b=CC-a;
    if((flg[a]==0)&&(flg[b]==0)){
      nm[5]=a; nm[47]=b;
      flg[a]=1; flg[b]=1;
      stp04();
      flg[b]=0; flg[a]=0;}
  }
}
/** Set n6=SSM-n1-n2-n5 & n48 *
void stp04(){
  short a,b;
  a=SSM-nm[1]-nm[2]-nm[5];
  b=SSM-nm[43]-nm[44]-nm[47];
  if((0<a)&&(a<65)&&(a+b==CC)){
    if((flg[a]==0)&&(flg[b]==0)){
      nm[6]=a; nm[48]=b;
      flg[a]=1; flg[b]=1;
      stp05();
      flg[b]=0; flg[a]=0;}}
}
/** Set n3 & n41 *
void stp05(){
  short a,b;
  for(a=1;a<65;a++){b=CC-a;
    if((flg[a]==0)&&(flg[b]==0)){
      nm[3]=a; nm[41]=b;
      flg[a]=1; flg[b]=1;
      stp06();
      flg[b]=0; flg[a]=0;}
  }
}
/** Set n7=SSM-n2-n3-n6 & n45 *
void stp06(){
  short a,b;
  a=SSM-nm[2]-nm[3]-nm[6];
  b=SSM-nm[44]-nm[41]-nm[48];
  if((0<a)&&(a<65)&&(a+b==CC)){
    if((flg[a]==0)&&(flg[b]==0)){
      nm[7]=a; nm[45]=b;
      flg[a]=1; flg[b]=1;

```

```

        stp07();
        flg[b]=0; flg[a]=0;}}
}
/** Set n4 & n42 *
void stp07(){
    short a,b;
    for(a=64;a>0;a--){b=CC-a;
        if((flg[a]==0)&&(flg[b]==0)){
            nm[4]=a; nm[42]=b;
            flg[a]=1; flg[b]=1;
            stp08();
            flg[b]=0; flg[a]=0;}}
    }
}
/** Set n8=SSM-n3-n4-n7 & n46 *
void stp08(){
    short a,b;
    a=SSM-nm[3]-nm[4]-nm[7];
    b=SSM-nm[41]-nm[42]-nm[45];
    if((0<a)&&(a<65)&&(a+b==CC)){
        if((flg[a]==0)&&(flg[b]==0)){
            nm[8]=a; nm[46]=b;
            flg[a]=1; flg[b]=1;
            stp09();
            flg[b]=0; flg[a]=0;}}
    }
}
/** Level #2 *
/** Set n9 & n35 *
void stp09(){
    short a,b;
    for(a=1;a<65;a++){b=CC-a;
        if((flg[a]==0)&&(flg[b]==0)){
            nm[9]=a; nm[35]=b;
            flg[a]=1; flg[b]=1;
            stp10();
            flg[b]=0; flg[a]=0;}}
    }
}
/** Set n10=SSM-n5-n6-n9 & n36 *
void stp10(){
    short a,b;
    a=SSM-nm[5]-nm[6]-nm[9];
    b=SSM-nm[47]-nm[48]-nm[35];
    if((0<a)&&(a<65)&&(a+b==CC)){
        if((flg[a]==0)&&(flg[b]==0)){
            nm[10]=a; nm[36]=b;
            flg[a]=1; flg[b]=1;
            stp11();
            flg[b]=0; flg[a]=0;}}
    }
}
/** Set n11=SSM-n6-n7-n10 & n33 *
void stp11(){
    short a,b;
    a=SSM-nm[6]-nm[7]-nm[10];
    b=SSM-nm[48]-nm[45]-nm[36];
    if((0<a)&&(a<65)&&(a+b==CC)){
        if((flg[a]==0)&&(flg[b]==0)){
            nm[11]=a; nm[33]=b;
            flg[a]=1; flg[b]=1;
            stp12();
            flg[b]=0; flg[a]=0;}}
    }
}
/** Set n12=SSM-n7-n8-n11 & n34 *
void stp12(){
    short a,b;
    a=SSM-nm[7]-nm[8]-nm[11];

```

```

b=SSM-nm[45]-nm[46]-nm[33];
if((0<a)&&(a<65)&&(a+b==CC)){
    if((flg[a]==0)&&(flg[b]==0)){
        nm[12]=a; nm[34]=b;
        flg[a]=1; flg[b]=1;
        stp13();
        flg[b]=0; flg[a]=0;}}
}
/* Set n13 & n39 *
void stp13(){
    short a,b;
    for(a=64;a>0;a--){b=CC-a;
        if((flg[a]==0)&&(flg[b]==0)){
            nm[13]=a; nm[39]=b;
            flg[a]=1; flg[b]=1;
            stp14();
            flg[b]=0; flg[a]=0;}}
}
}
/* Set n14=SSM-n9-n10-n13 & n40 *
void stp14(){
    short a,b;
    a=SSM-nm[9]-nm[10]-nm[13];
    b=SSM-nm[35]-nm[36]-nm[39];
    if((0<a)&&(a<65)&&(a+b==CC)){
        if((flg[a]==0)&&(flg[b]==0)){
            nm[14]=a; nm[40]=b;
            flg[a]=1; flg[b]=1;
            stp15();
            flg[b]=0; flg[a]=0;}}
}
}
/* Set n15=SSM-n10-n11-n14 & n37 *
void stp15(){
    short a,b;
    a=SSM-nm[10]-nm[11]-nm[14];
    b=SSM-nm[36]-nm[33]-nm[40];
    if((0<a)&&(a<65)&&(a+b==CC)){
        if((flg[a]==0)&&(flg[b]==0)){
            nm[15]=a; nm[37]=b;
            flg[a]=1; flg[b]=1;
            stp16();
            flg[b]=0; flg[a]=0;}}
}
}
/* Set n16=SSM-n11-n12-n15 & n38(>n1) *
void stp16(){
    short a,b,sm;
    a=SSM-nm[11]-nm[12]-nm[15];
    b=SSM-nm[33]-nm[34]-nm[37];
    if((0<a)&&(a<65)&&(a+b==CC)){
        if((b>nm[1])&&(flg[a]==0)&&(flg[b]==0)){
            nm[16]=a; nm[38]=b;
            flg[a]=1; flg[b]=1;
            sm=nm[1]+nm[6]+nm[11]+nm[16]+nm[43]+nm[48]+nm[33]+nm[38];
            if(sm==LSM){stp17();}
            flg[b]=0; flg[a]=0;}}
}
}
/* Level #3 *
/* Set n25 & n51 *
void stp17(){
    short a,b;
    for(a=64;a>0;a--){b=CC-a;
        if((flg[a]==0)&&(flg[b]==0)){
            nm[25]=a; nm[51]=b;
            flg[a]=1; flg[b]=1;
            stp18();
            flg[b]=0; flg[a]=0;}}
}

```

```

}
}
}
/** Set n29=SSM-n4-n8-n25 & n55 *
void stp18(){
short a,b;
a=SSM-nm[4]-nm[8]-nm[25];
b=SSM-nm[42]-nm[46]-nm[51];
if((0<a)&&(a<65)&&(a+b==CC)){
if((flg[a]==0)&&(flg[b]==0)){
nm[29]=a; nm[55]=b;
flg[a]=1; flg[b]=1;
stp19();
flg[b]=0; flg[a]=0;}}
}
/** Set n17=SSM-n8-n12-n29 & n59 *
void stp19(){
short a,b;
a=SSM-nm[8]-nm[12]-nm[29];
b=SSM-nm[46]-nm[34]-nm[55];
if((0<a)&&(a<65)&&(a+b==CC)){
if((flg[a]==0)&&(flg[b]==0)){
nm[17]=a; nm[59]=b;
flg[a]=1; flg[b]=1;
stp20();
flg[b]=0; flg[a]=0;}}
}
/** Set n21=SSM-n12-n16-n17 & n63(>n1) *
void stp20(){
short a,b,c;
a=SSM-nm[12]-nm[16]-nm[17];
b=SSM-nm[34]-nm[38]-nm[59];
c=LSM-nm[1]-nm[5]-nm[9]-nm[13]-nm[51]-nm[55]-nm[59];
if((0<a)&&(a<65)&&(a+b==CC)&&(b>nm[1])){
if((b==c)&&(flg[a]==0)&&(flg[b]==0)){
nm[21]=a; nm[63]=b;
flg[a]=1; flg[b]=1;
stp21();
flg[b]=0; flg[a]=0;}}
}
/** Set n28=SSM-n38-n63-n1(>n1) & n50 *
void stp21(){
short a,b;
a=SSM-nm[38]-nm[63]-nm[1];
b=SSM-nm[16]-nm[21]-nm[43];
if((nm[1]<a)&&(a<65)&&(a+b==CC)){
if((flg[a]==0)&&(flg[b]==0)){
nm[28]=a; nm[50]=b;
flg[a]=1; flg[b]=1;
stp22();
flg[b]=0; flg[a]=0;}}
}
/** Set n27=SSM-n37-n38-n28 & n49 *
void stp22(){
short a,b;
a=SSM-nm[37]-nm[38]-nm[28];
b=SSM-nm[15]-nm[16]-nm[50];
if((0<a)&&(a<65)&&(a+b==CC)){
if((flg[a]==0)&&(flg[b]==0)){
nm[27]=a; nm[49]=b;
flg[a]=1; flg[b]=1;
stp23();
flg[b]=0; flg[a]=0;}}
}
/** Set n26=SSM-n40-n37-n27 & n52 *
void stp23(){
short a,b,c,d,sm;

```

```

a=SSM-nm[40]-nm[37]-nm[27];
b=SSM-nm[14]-nm[15]-nm[49];
c=SSM-nm[39]-nm[40]-nm[25];
d=SSM-nm[13]-nm[14]-nm[51];
if((0<a)&&(a<65)&&(a+b==CC)&&(a==c)){
    if((b==d)&&(flg[a]==0)&&(flg[b]==0)){
        nm[26]=a; nm[52]=b;
        flg[a]=1; flg[b]=1;
        sm=nm[1]+nm[2]+nm[3]+nm[4]+nm[25]+nm[26]+nm[27]+nm[28];
        if(sm==LSM){stp24();}
        flg[b]=0; flg[a]=0;}}
}
/** Level #4 *
/** Set n30=SSM-n25-n26-n29 & n56 *
void stp24(){
    short a,b;
    a=SSM-nm[25]-nm[26]-nm[29];
    b=SSM-nm[51]-nm[52]-nm[55];
    if((0<a)&&(a<65)&&(a+b==CC)){
        if((flg[a]==0)&&(flg[b]==0)){
            nm[30]=a; nm[56]=b;
            flg[a]=1; flg[b]=1;
            stp25();
            flg[b]=0; flg[a]=0;}}
}
/** Set n31=SSM-n26-n27-n30 & n53 *
void stp25(){
    short a,b;
    a=SSM-nm[26]-nm[27]-nm[30];
    b=SSM-nm[52]-nm[49]-nm[56];
    if((0<a)&&(a<65)&&(a+b==CC)){
        if((flg[a]==0)&&(flg[b]==0)){
            nm[31]=a; nm[53]=b;
            flg[a]=1; flg[b]=1;
            stp26();
            flg[b]=0; flg[a]=0;}}
}
/** Set n32=SSM-n27-n28-n31 & n54 *
void stp26(){
    short a,b,c,d;
    a=SSM-nm[27]-nm[28]-nm[31];
    b=SSM-nm[49]-nm[50]-nm[53];
    c=SSM-nm[28]-nm[1]-nm[5];
    d=SSM-nm[50]-nm[43]-nm[47];
    if((0<a)&&(a<65)&&(a+b==CC)){
        if((a==c)&&(flg[a]==0)&&(flg[b]==0)){
            nm[32]=a; nm[54]=b;
            flg[a]=1; flg[b]=1;
            stp27();
            flg[b]=0; flg[a]=0;}}
}
/** Set n18=SSM-n29-n30-n17 & n60 *
void stp27(){
    short a,b;
    a=SSM-nm[29]-nm[30]-nm[17];
    b=SSM-nm[55]-nm[56]-nm[59];
    if((0<a)&&(a<65)&&(a+b==CC)){
        if((flg[a]==0)&&(flg[b]==0)){
            nm[18]=a; nm[60]=b;
            flg[a]=1; flg[b]=1;
            stp28();
            flg[b]=0; flg[a]=0;}}
}
/** Set n19=SSM-n30-n31-n18 & n57 *
void stp28(){
    short a,b;

```

```

a=SSM-nm[30]-nm[31]-nm[18];
b=SSM-nm[56]-nm[53]-nm[60];
if((0<a)&&(a<65)&&(a+b==CC)){
    if((flg[a]==0)&&(flg[b]==0)){
        nm[19]=a; nm[57]=b;
        flg[a]=1; flg[b]=1;
        stp29();
        flg[b]=0; flg[a]=0;}}
}
/* Set n20=SSM-n31-n32-n19 & n58 *
void stp29(){
short a,b,c,d;
a=SSM-nm[31]-nm[32]-nm[19];
b=SSM-nm[53]-nm[54]-nm[57];
c=SSM-nm[32]-nm[5]-nm[9];
d=SSM-nm[54]-nm[47]-nm[35];
if((0<a)&&(a<65)&&(a+b==CC)){
    if((a==c)&&(flg[a]==0)&&(flg[b]==0)){
        nm[20]=a; nm[58]=b;
        flg[a]=1; flg[b]=1;
        stp30();
        flg[b]=0; flg[a]=0;}}
}
/* Set n22=SSM-n17-n18-n21 & n64 *
void stp30(){
short a,b,c,d;
a=SSM-nm[17]-nm[18]-nm[21];
b=SSM-nm[59]-nm[60]-nm[63];
c=SSM-nm[21]-nm[43]-nm[44];
d=SSM-nm[63]-nm[1]-nm[2];
if((0<a)&&(a<65)&&(a+b==CC)){
    if((a==c)&&(flg[a]==0)&&(flg[b]==0)){
        nm[22]=a; nm[64]=b;
        flg[a]=1; flg[b]=1;
        stp31();
        flg[b]=0; flg[a]=0;}}
}
/* Set n23=SSM-n18-n19-n22 & n61 *
void stp31(){
short a,b,c,d;
a=SSM-nm[18]-nm[19]-nm[22];
b=SSM-nm[60]-nm[57]-nm[64];
c=SSM-nm[22]-nm[44]-nm[41];
d=SSM-nm[64]-nm[2]-nm[3];
if((0<a)&&(a<65)&&(a+b==CC)){
    if((a==c)&&(flg[a]==0)&&(flg[b]==0)){
        nm[23]=a; nm[61]=b;
        flg[a]=1; flg[b]=1;
        stp32();
        flg[b]=0; flg[a]=0;}}
}
/* Set n24=SSM-n19-n20-n23 & n62 *
void stp32(){
short a,b,c,d;
a=SSM-nm[19]-nm[20]-nm[23];
b=SSM-nm[57]-nm[58]-nm[61];
c=SSM-nm[20]-nm[9]-nm[13];
d=SSM-nm[58]-nm[35]-nm[39];
if((a+b==CC)&&(0<a)&&(a<65)){
    if((a==c)&&(b==d)&&(flg[a]==0)&&(flg[b]==0)){
        nm[24]=a; nm[62]=b;
        flg[a]=1; flg[b]=1;
        stp33();
        flg[b]=0; flg[a]=0;}}
}
/* Check some Composite Sums *

```



```

void stp33(){
short sm1,sm2,sm3,sm4;
sm1=nm[23]+nm[24]+nm[41]+nm[42];
sm2=nm[24]+nm[13]+nm[42]+nm[51];
sm3=nm[61]+nm[62]+nm[3]+nm[4];
sm4=nm[62]+nm[39]+nm[4]+nm[25];
if((sm1==SSM)&&(sm2==SSM)&&(sm3==SSM)&&(sm4==SSM)){
ans26print();}
}
//
/* Print Procedure for Listing the Answers *
void ans26print(){
cnt++; cnt2++;
if(cnt2==1){
printf("%3ld/6dEC02\n",cnt);
pr1pat26();
pr2pat26();
}
}
//
/* Print the Pattern-1 *
void pr1pat26(){
printf("%4d----%2d%7d----%2d", nm[1],nm[2],nm[3],nm[4]);
printf("%8d----%2d%7d----%2d\n", nm[33],nm[34],nm[35],nm[36]);
printf("  |%3d--+-%2d  |%3d--+-%2d", nm[17],nm[18],nm[19],nm[20]);
printf("  |%3d--+-%2d  |%3d--+-%2d\n", nm[49],nm[50],nm[51],nm[52]);
printf("%4d--l-%2d  |%4d--l-%2d  |", nm[5],nm[6],nm[7],nm[8]);
printf("%5d--l-%2d  |%4d--l-%2d  | \n", nm[37],nm[38],nm[39],nm[40]);
printf("%7d----%2d%7d----%2d", nm[21],nm[22],nm[23],nm[24]);
printf("%8d----%2d%7d----%2d\n", nm[53],nm[54],nm[55],nm[56]);
printf("\n");
/**/
printf("%4d----%2d%7d----%2d", nm[9],nm[10],nm[11],nm[12]);
printf("%8d----%2d%7d----%2d\n", nm[41],nm[42],nm[43],nm[44]);
printf("  |%3d--+-%2d  |%3d--+-%2d", nm[25],nm[26],nm[27],nm[28]);
printf("  |%3d--+-%2d  |%3d--+-%2d\n", nm[57],nm[58],nm[59],nm[60]);
printf("%4d--l-%2d  |%4d--l-%2d  |", nm[13],nm[14],nm[15],nm[16]);
printf("%5d--l-%2d  |%4d--l-%2d  | \n", nm[45],nm[46],nm[47],nm[48]);
printf("%7d----%2d%7d----%2d", nm[29],nm[30],nm[31],nm[32]);
printf("%8d----%2d%7d----%2d\n", nm[61],nm[62],nm[63],nm[64]);
printf("\n");
}
//
// 0/6dEC02
// 1---- 2      3---- 4      33----34     35----36
// | 17---+18  | 19---+20   | 49---+50   | 51---+52
// 5--|- 6  | 7--|- 8  | 37--|-38  | 39--|-40  |
// 21----22   23----24     53----54     55----56
//
// 9----10     11----12     41----42     43----44
// | 25---+26  | 27---+28   | 57---+58   | 59---+60
// 13--|-14  | 15--|-16  | 45--|-46  | 47--|-48  |
// 29----30   31----32     61----62     63----64
//
// 1----- 2----- 3----- 4   /MC4                               /C8M                               /GSP
// |17      18      19      |20      1  2  3  4 25 26 27 28   1  2  3  4 18 17 20 19
// 5 33    6 34    7 35    8 36    5  6  7  8 29 30 31 32   5  6  7  8 22 21 24 23
// |21 49---22---50---23---51---24---52   9 10 11 12 17 18 19 20   9 10 11 12 26 25 28 27
// 9 37 | 10 38  11 39  12 40 | 13 14 15 16 21 22 23 24   13 14 15 16 30 29 32 31
// |25 53  26 54  27 55  |28 56   51 52 49 50 43 44 41 42   53 54 55 56 38 37 40 39
// 13-41-|-14-42---15-43---16 44 | 55 56 53 54 47 48 45 46   49 50 51 52 34 33 36 35
// 29 57  30 58  31 59  32 60   59 60 57 58 35 36 33 34   61 62 63 64 46 45 48 47
// 45 | 46  47  48 | 63 64 61 62 39 40 37 38   57 58 59 60 42 41 44 43
// 61-----62-----63-----64
//
//
/* Print the Solution Set of 'C&C'MC4 and CCMS88 *

```

```

void pr2pat26(){
printf("%3d-----%2d      %2d-----%2d  ",
nm[1],nm[2],nm[3],nm[4]);
printf("  /CC4          T1/CS8          T2/\n");
printf("  |%2d-----+%2d      |%2d-----+%2d      ",
nm[17],nm[18],nm[19],nm[20]);
printf("%4d%3d%3d%3d%3d%3d%3d%3d",
nm[1],nm[2],nm[3],nm[4],nm[25],nm[26],nm[27],nm[28]);
printf("%5d%3d%3d%3d%3d%3d%3d%3d\n",
nm[1],nm[2],nm[3],nm[4],nm[25],nm[26],nm[27],nm[28]);
printf("  %2d-|%2d===%2d-+%2d  %2d-|%2d===%2d-+%2d  ",
nm[5],nm[33],nm[6],nm[34],nm[7],nm[35],nm[8],nm[36]);
printf("%4d%3d%3d%3d%3d%3d%3d%3d",
nm[5],nm[6],nm[7],nm[8],nm[29],nm[30],nm[31],nm[32]);
printf("%5d%3d%3d%3d%3d%3d%3d%3d\n",
nm[5],nm[6],nm[7],nm[8],nm[29],nm[30],nm[31],nm[32]);
printf("  %2d-|%2d===%2d-+%2d  %2d-|%2d===%2d-+%2d  ",
nm[21],nm[49],nm[22],nm[50],nm[23],nm[51],nm[24],nm[52]);
printf("%4d%3d%3d%3d%3d%3d%3d%3d",
nm[9],nm[10],nm[11],nm[12],nm[17],nm[18],nm[19],nm[20]);
printf("%5d%3d%3d%3d%3d%3d%3d%3d\n",
nm[39],nm[40],nm[37],nm[38],nm[63],nm[64],nm[61],nm[62]);
printf("  %2d--%2d=|=|%2d--%2d | %2d--%2d=|=|%2d--%2d | ",
nm[9],nm[37],nm[10],nm[38],nm[11],nm[39],nm[12],nm[40]);
printf("%4d%3d%3d%3d%3d%3d%3d%3d",
nm[13],nm[14],nm[15],nm[16],nm[21],nm[22],nm[23],nm[24]);
printf("%5d%3d%3d%3d%3d%3d%3d%3d\n",
nm[35],nm[36],nm[33],nm[34],nm[59],nm[60],nm[57],nm[58]);
printf("  |%2d--%2d===+%2d--%2d  |%2d--%2d===+%2d--%2d  ",
nm[25],nm[53],nm[26],nm[54],nm[27],nm[55],nm[28],nm[56]);
printf("%4d%3d%3d%3d%3d%3d%3d%3d",
nm[51],nm[52],nm[49],nm[50],nm[43],nm[44],nm[41],nm[42]);
printf("%5d%3d%3d%3d%3d%3d%3d%3d\n",
nm[51],nm[52],nm[49],nm[50],nm[43],nm[44],nm[41],nm[42]);
printf("  %2d-|%2d===%2d-+%2d  %2d-|%2d===%2d-+%2d  ",
nm[13],nm[41],nm[14],nm[42],nm[15],nm[43],nm[16],nm[44]);
printf("%4d%3d%3d%3d%3d%3d%3d%3d",
nm[55],nm[56],nm[53],nm[54],nm[47],nm[48],nm[45],nm[46]);
printf("%5d%3d%3d%3d%3d%3d%3d%3d\n",
nm[55],nm[56],nm[53],nm[54],nm[47],nm[48],nm[45],nm[46]);
printf("  %2d-|%2d===%2d-+%2d  %2d-|%2d===%2d-+%2d  ",
nm[29],nm[57],nm[30],nm[58],nm[31],nm[59],nm[32],nm[60]);
printf("%4d%3d%3d%3d%3d%3d%3d%3d",
nm[59],nm[60],nm[57],nm[58],nm[35],nm[36],nm[33],nm[34]);
printf("%5d%3d%3d%3d%3d%3d%3d%3d\n",
nm[21],nm[22],nm[23],nm[24],nm[13],nm[14],nm[15],nm[16]);
printf("  %2d-|-----%2d | %2d-|-----%2d | ",
nm[45],nm[46],nm[47],nm[48]);
printf("%4d%3d%3d%3d%3d%3d%3d%3d",
nm[63],nm[64],nm[61],nm[62],nm[39],nm[40],nm[37],nm[38]);
printf("%5d%3d%3d%3d%3d%3d%3d%3d\n",
nm[17],nm[18],nm[19],nm[20],nm[9],nm[10],nm[11],nm[12]);
printf("  %2d-----%2d      %2d-----%2d\n",
nm[61],nm[62],nm[63],nm[64]);
printf("\n");
}
//

```