_In[●]:=_ **C1 = (X0 && Y0) || (X0 ⊻ Y0) && C0**

Out[●]= (X0 && Y0) || ((X0 ⊻ Y0) && C0)

_In[●]:=_ **C2 = (X1 && Y1) || (X1 ⊻ Y1) && C1**

Out[●]= (X1 && Y1) || ((X1 ⊻ Y1) && ((X0 && Y0) || ((X0 ⊻ Y0) && C0)))

_In[●]:=_ **C3 = (X2 && Y2) || (X2 ⊻ Y2) && C2**

Out[●]= (X2 && Y2) || ((X2 ⊻ Y2) && ((X1 && Y1) || ((X1 ⊻ Y1) && ((X0 && Y0) || ((X0 ⊻ Y0) && C0)))))

_In[●]:=_ **C4 = (X3 && Y3) || (X3 ⊻ Y3) && C3**

Out[●]= (X3 && Y3) || ((X3 ⊻ Y3) && ((X2 && Y2) ||
  ((X2 ⊻ Y2) && ((X1 && Y1) || ((X1 ⊻ Y1) && ((X0 && Y0) || ((X0 ⊻ Y0) && C0)))))))

_In[●]:=_ **S0 = X0 ⊻ Y0 ⊻ C0**

Out[●]= C0 ⊻ X0 ⊻ Y0

_In[●]:=_ **S1 = X1 ⊻ Y1 ⊻ C1**

Out[●]= X1 ⊻ Y1 ⊻ ((X0 && Y0) || ((X0 ⊻ Y0) && C0))

_In[●]:=_ **S2 = X2 ⊻ Y2 ⊻ C2**

Out[●]= X2 ⊻ Y2 ⊻ ((X1 && Y1) || ((X1 ⊻ Y1) && ((X0 && Y0) || ((X0 ⊻ Y0) && C0))))

_In[●]:=_ **S3 = X3 ⊻ Y3 ⊻ C3**

Out[●]= X3 ⊻ Y3 ⊻
  ((X2 && Y2) || ((X2 ⊻ Y2) && ((X1 && Y1) || ((X1 ⊻ Y1) && ((X0 && Y0) || ((X0 ⊻ Y0) && C0))))))

_In[●]:=_ **Overflow1 = (! X3 && ! Y3 && S3) || (X3 && Y3 && ! S3)**

Out[●]= (! X3 && ! Y3 && (X3 ⊻ Y3 ⊻ ((X2 && Y2) ||
  ((X2 ⊻ Y2) && ((X1 && Y1) || ((X1 ⊻ Y1) && ((X0 && Y0) || ((X0 ⊻ Y0) && C0))))))))) ||
  (X3 && Y3 && ! (X3 ⊻ Y3 ⊻ ((X2 && Y2) || ((X2 ⊻ Y2) &&
  ((X1 && Y1) || ((X1 ⊻ Y1) && ((X0 && Y0) || ((X0 ⊻ Y0) && C0))))))))

_In[●]:=_ **Overflow2 = C4 ⊻ C3**

Out[●]= ((X2 && Y2) || ((X2 ⊻ Y2) && ((X1 && Y1) || ((X1 ⊻ Y1) && ((X0 && Y0) || ((X0 ⊻ Y0) && C0)))))) ⊻
  ((X3 && Y3) || ((X3 ⊻ Y3) && ((X2 && Y2) ||
  ((X2 ⊻ Y2) && ((X1 && Y1) || ((X1 ⊻ Y1) && ((X0 && Y0) || ((X0 ⊻ Y0) && C0))))))))

_In[●]:=_ **BooleanMinimize[Overflow1] == BooleanMinimize[Overflow2]**
⌊최소화 부울   ⌊최소화 부울

Out[●]= True

_In[●]:=_ **Zero = ! S3 && ! S2 && ! S1 && ! S0**

Out[●]= ! (X3 ⊻ Y3 ⊻ ((X2 && Y2) ||
  ((X2 ⊻ Y2) && ((X1 && Y1) || ((X1 ⊻ Y1) && ((X0 && Y0) || ((X0 ⊻ Y0) && C0))))))) &&
  ! (X2 ⊻ Y2 ⊻ ((X1 && Y1) || ((X1 ⊻ Y1) && ((X0 && Y0) || ((X0 ⊻ Y0) && C0))))) &&
  ! (X1 ⊻ Y1 ⊻ ((X0 && Y0) || ((X0 ⊻ Y0) && C0))) &&
  ! (C0 ⊻ X0 ⊻ Y0)

```
In[ ]:= NegativeFlag = S3

Out[ ]= X3 ⊻ Y3 ⊻
        ((X2 && Y2) || ((X2 ⊻ Y2) && ((X1 && Y1) || ((X1 ⊻ Y1) && ((X0 && Y0) || ((X0 ⊻ Y0) && C0))))))
```

```
In[ ]:= Convert2Param[x_, y_, cc_] :=
        {X3 -> StringTake[x, {1, 1}] == "1", X2 -> StringTake[x, {2, 2}] == "1",
         X1 -> StringTake[x, {3, 3}] == "1", X0 -> StringTake[x, {4, 4}] == "1",
         Y3 -> StringTake[y, {1, 1}] == "1", Y2 -> StringTake[y, {2, 2}] == "1",
         Y1 -> StringTake[y, {3, 3}] == "1", Y0 -> StringTake[y, {4, 4}] == "1", C0 → cc == "1"}

        {"0000", "0001", "0010", "0011", "0100", "0101", "0110", "0111",
         "1000", "1001", "1010", "1011", "1100", "1101", "1110", "1111"}

        BinaryToDecTable = {0, 1, 2, 3, 4, 5, 6, 7, -8, -7, -6, -5, -4, -3, -2, -1}
```

```
In[ ]:= ToBinaryString[i_] := StringPadLeft[IntegerString[i, 2], 4, "0"]
```

```
In[ ]:= NormalizeBinaryDec[v_] := If[v > 7, v - 16, If[v < -8, v + 16, v]]
```

```
In[ ]:= GetExprValue[EXPR_, X_, Y_] :=
        (EXPR /. Convert2Param[ToBinaryString[X], ToBinaryString[Y], "0"])
```

```
In[ ]:= ToExprString[X_, Y_] := ToString[GetExprValue[X, Y]]
```

```
In[ ]:= ToExprFullString[X_, Y_] :=
        ToBinaryString[X] <> "(" <> ToString[BinaryToDecTable[[X + 1]]] <> ")" <> "+" <>
         ToBinaryString[Y] <> "(" <> ToString[BinaryToDecTable[[Y + 1]]] <> ")" <> "=" <>
         ToString[NormalizeBinaryDec[BinaryToDecTable[[X + 1]] + BinaryToDecTable[[Y + 1]]]]
```

```
In[ ]:= SmartBlend[list_] :=
        If[Length[list] == 0, White, If[Length[list] == 1, list[[1]], Blend[list]]]

        Grid[Table[Item[ToExprFullString[X, Y],
           {Background → SmartBlend[{If[GetExprValue[Overflow1, X, Y], Blue, Nothing],
             If[GetExprValue[Zero, X, Y], Green, Nothing],
             If[GetExprValue[NegativeFlag, X, Y], Red, Nothing]}]}],
          {X, 0, 16 - 1}, {Y, 0, 16 - 1}], Frame → All]
```

In[◦]:= `Grid[Table[Item[ToExprFullString[X, Y],`
 └격자 └목록… └항목

    `{Background → If[GetExprValue[Overflow1, X, Y], Red, White]}],`
    └배경   └만약   └빨강 └흰색

  `{X, 0, 16 - 1}, {Y, 0, 16 - 1}], Frame → All]`
                                          └테두리 └모든

Out[◦]=

0000(0) +0000 (0)=0	0000(0) +0001 (1)=1	0000(0) +0010 (2)=2	0000(0) +0011 (3)=3	0000(0) +0100 (4)=4	0000(0) +0101 (5)=5	0000(0) +0110 (6)=6	0000(0) +0111 (7)=7	0000(0) +1000 (−8) =−8	0000(0 +100 (−7 =−7
0001(1) +0000 (0)=1	0001(1) +0001 (1)=2	0001(1) +0010 (2)=3	0001(1) +0011 (3)=4	0001(1) +0100 (4)=5	0001(1) +0101 (5)=6	0001(1) +0110 (6)=7	**0001(1) +0111 (7)= −8**	0001(1) +1000 (−8) =−7	0001(1 +100 (−7 =−6
0010(2) +0000 (0)=2	0010(2) +0001 (1)=3	0010(2) +0010 (2)=4	0010(2) +0011 (3)=5	0010(2) +0100 (4)=6	0010(2) +0101 (5)=7	**0010(2) +0110 (6)= −8**	**0010(2) +0111 (7)= −7**	0010(2) +1000 (−8) =−6	0010(2 +100 (−7 =−5
0011(3) +0000 (0)=3	0011(3) +0001 (1)=4	0011(3) +0010 (2)=5	0011(3) +0011 (3)=6	0011(3) +0100 (4)=7	**0011(3) +0101 (5)= −8**	**0011(3) +0110 (6)= −7**	**0011(3) +0111 (7)= −6**	0011(3) +1000 (−8) =−5	0011(3 +100 (−7 =−4
0100(4) +0000 (0)=4	0100(4) +0001 (1)=5	0100(4) +0010 (2)=6	0100(4) +0011 (3)=7	**0100(4) +0100 (4)= −8**	**0100(4) +0101 (5)= −7**	**0100(4) +0110 (6)= −6**	**0100(4) +0111 (7)= −5**	0100(4) +1000 (−8) =−4	0100(4 +100 (−7 =−3
0101(5) +0000 (0)=5	0101(5) +0001 (1)=6	0101(5) +0010 (2)=7	**0101(5) +0011 (3)= −8**	**0101(5) +0100 (4)= −7**	**0101(5) +0101 (5)= −6**	**0101(5) +0110 (6)= −5**	**0101(5) +0111 (7)= −4**	0101(5) +1000 (−8) =−3	0101(5 +100 (−7 =−2
0110(6) +0000 (0)=6	0110(6) +0001 (1)=7	**0110(6) +0010 (2)= −8**	**0110(6) +0011 (3)= −7**	**0110(6) +0100 (4)= −6**	**0110(6) +0101 (5)= −5**	**0110(6) +0110 (6)= −4**	**0110(6) +0111 (7)= −3**	0110(6) +1000 (−8) =−2	0110(6 +100 (−7 =−1
0111(7) +0000 (0)=7	**0111(7) +0001 (1)= −8**	**0111(7) +0010 (2)= −7**	**0111(7) +0011 (3)= −6**	**0111(7) +0100 (4)= −5**	**0111(7) +0101 (5)= −4**	**0111(7) +0110 (6)= −3**	**0111(7) +0111 (7)= −2**	0111(7) +1000 (−8) =−1	0111(7 +100 (−7 =0
1000(−8)+ 0000(0)=−8	1000(−8)+ 0001(1)=−7	1000(−8)+ 0010(2)=−6	1000(−8)+ 0011(3)=−5	1000(−8)+ 0100(4)=−4	1000(−8)+ 0101(5)=−3	1000(−8)+ 0110(6)=−2	1000(−8)+ 0111(7)=−1	**1000(−8)+ 1000(−8)=0**	**1000(−)+ 1001 (−7)=**
1001(−7)+ 0000(0)=−7	1001(−7)+ 0001(1)=−6	1001(−7)+ 0010(2)=−5	1001(−7)+ 0011(3)=−4	1001(−7)+ 0100(4)=−3	1001(−7)+ 0101(5)=−2	1001(−7)+ 0110(6)=−1	1001(−7)+ 0111(7)=0	**1001(−7)+ 1000(−8)=1**	**1001(−)+ 100 (−7)**

1010(−6) +0000(0)=−6	1010(−6) +0001(1)=−5	1010(−6) +0010(2)=−4	1010(−6) +0011(3)=−3	1010(−6) +0100(4)=−2	1010(−6) +0101(5)=−1	1010(−6) +0110(6)=0	1010(−6) +0111(7)=1	1010(−6) +1000(−8)=2	1010(−)+ 1001 −7)=
1011(−5) +0000(0)=−5	1011(−5) +0001(1)=−4	1011(−5) +0010(2)=−3	1011(−5) +0011(3)=−2	1011(−5) +0100(4)=−1	1011(−5) +0101(5)=0	1011(−5) +0110(6)=1	1011(−5) +0111(7)=2	1011(−5) +1000(−8)=3	1011(−)+ 1001 −7)=
1100(−4) +0000(0)=−4	1100(−4) +0001(1)=−3	1100(−4) +0010(2)=−2	1100(−4) +0011(3)=−1	1100(−4) +0100(4)=0	1100(−4) +0101(5)=1	1100(−4) +0110(6)=2	1100(−4) +0111(7)=3	1100(−4) +1000(−8)=4	1100(−)+ 1001 −7)=
1101(−3) +0000(0)=−3	1101(−3) +0001(1)=−2	1101(−3) +0010(2)=−1	1101(−3) +0011(3)=0	1101(−3) +0100(4)=1	1101(−3) +0101(5)=2	1101(−3) +0110(6)=3	1101(−3) +0111(7)=4	1101(−3) +1000(−8)=5	1101(−)+ 1001 −7)=
1110(−2) +0000(0)=−2	1110(−2) +0001(1)=−1	1110(−2) +0010(2)=0	1110(−2) +0011(3)=1	1110(−2) +0100(4)=2	1110(−2) +0101(5)=3	1110(−2) +0110(6)=4	1110(−2) +0111(7)=5	1110(−2) +1000(−8)=6	1110(−)+ 1001 −7)=
1111(−1) +0000(0)=−1	1111(−1) +0001(1)=0	1111(−1) +0010(2)=1	1111(−1) +0011(3)=2	1111(−1) +0100(4)=3	1111(−1) +0101(5)=4	1111(−1) +0110(6)=5	1111(−1) +0111(7)=6	1111(−1) +1000(−8)=7	1111(−)+ 1001 −7)= −8

In[◦]:=
```
Grid[Table[Item[ToExprFullString[X, Y],
        {Background → If[GetExprValue[Zero, X, Y], Green, White]}],
    {X, 0, 16 - 1}, {Y, 0, 16 - 1}], Frame → All]
```

0000(0) +0000(0)=0	0000(0) +0001(1)=1	0000(0) +0010(2)=2	0000(0) +0011(3)=3	0000(0) +0100(4)=4	0000(0) +0101(5)=5	0000(0) +0110(6)=6	0000(0) +0111(7)=7	0000(0) +1000(−8)=−8	0000(0 +100 (−7) =−7
0001(1) +0000(0)=1	0001(1) +0001(1)=2	0001(1) +0010(2)=3	0001(1) +0011(3)=4	0001(1) +0100(4)=5	0001(1) +0101(5)=6	0001(1) +0110(6)=7	0001(1) +0111(7)=−8	0001(1) +1000(−8)=−7	0001(1 +100 (−7) =−6
0010(2) +0000(0)=2	0010(2) +0001(1)=3	0010(2) +0010(2)=4	0010(2) +0011(3)=5	0010(2) +0100(4)=6	0010(2) +0101(5)=7	0010(2) +0110(6)=−8	0010(2) +0111(7)=−7	0010(2) +1000(−8)=−6	0010(2 +100 (−7) =−5

Out[◦]=

0011(3) +0000 (0) =3	0011(3) +0001 (1) =4	0011(3) +0010 (2) =5	0011(3) +0011 (3) =6	0011(3) +0100 (4) =7	0011(3) +0101 (5) = -8	0011(3) +0110 (6) = -7	0011(3) +0111 (7) = -6	0011(3) +1000 (-8) = -5	0011(3 +100 (-7) = -4
0100(4) +0000 (0) =4	0100(4) +0001 (1) =5	0100(4) +0010 (2) =6	0100(4) +0011 (3) =7	0100(4) +0100 (4) = -8	0100(4) +0101 (5) = -7	0100(4) +0110 (6) = -6	0100(4) +0111 (7) = -5	0100(4) +1000 (-8) = -4	0100(4 +100 (-7) = -3
0101(5) +0000 (0) =5	0101(5) +0001 (1) =6	0101(5) +0010 (2) =7	0101(5) +0011 (3) = -8	0101(5) +0100 (4) = -7	0101(5) +0101 (5) = -6	0101(5) +0110 (6) = -5	0101(5) +0111 (7) = -4	0101(5) +1000 (-8) = -3	0101(5 +100 (-7) = -2
0110(6) +0000 (0) =6	0110(6) +0001 (1) =7	0110(6) +0010 (2) = -8	0110(6) +0011 (3) = -7	0110(6) +0100 (4) = -6	0110(6) +0101 (5) = -5	0110(6) +0110 (6) = -4	0110(6) +0111 (7) = -3	0110(6) +1000 (-8) = -2	0110(6 +100 (-7) = -1
0111(7) +0000 (0) =7	0111(7) +0001 (1) = -8	0111(7) +0010 (2) = -7	0111(7) +0011 (3) = -6	0111(7) +0100 (4) = -5	0111(7) +0101 (5) = -4	0111(7) +0110 (6) = -3	0111(7) +0111 (7) = -2	0111(7) +1000 (-8) = -1	**0111(7 +100 (-7 =0**
1000(-8) + 0000 (0) =-8	1000(-8) + 0001 (1) =-7	1000(-8) + 0010 (2) =-6	1000(-8) + 0011 (3) =-5	1000(-8) + 0100 (4) =-4	1000(-8) + 0101 (5) =-3	1000(-8) + 0110 (6) =-2	1000(-8) + 0111 (7) =-1	**1000(-8) + 1000 (-8) =0**	1000(-) + 1001 (-7) =
1001(-7) + 0000 (0) =-7	1001(-7) + 0001 (1) =-6	1001(-7) + 0010 (2) =-5	1001(-7) + 0011 (3) =-4	1001(-7) + 0100 (4) =-3	1001(-7) + 0101 (5) =-2	1001(-7) + 0110 (6) =-1	**1001(-7) + 0111 (7) =0**	1001(-7) + 1000 (-8) =1	1001(-) + 1001 (-7) =
1010(-6) + 0000 (0) =-6	1010(-6) + 0001 (1) =-5	1010(-6) + 0010 (2) =-4	1010(-6) + 0011 (3) =-3	1010(-6) + 0100 (4) =-2	1010(-6) + 0101 (5) =-1	**1010(-6) + 0110 (6) =0**	1010(-6) + 0111 (7) =1	1010(-6) + 1000 (-8) =2	1010(-) + 1001 (-7) =
1011(-5) + 0000 (0) =-5	1011(-5) + 0001 (1) =-4	1011(-5) + 0010 (2) =-3	1011(-5) + 0011 (3) =-2	1011(-5) + 0100 (4) =-1	**1011(-5) + 0101 (5) =0**	1011(-5) + 0110 (6) =1	1011(-5) + 0111 (7) =2	1011(-5) + 1000 (-8) =3	1011(-) + 1001 (-7) =
1100(-4) + 0000 (0) =-4	1100(-4) + 0001 (1) =-3	1100(-4) + 0010 (2) =-2	1100(-4) + 0011 (3) =-1	**1100(-4) + 0100 (4) =0**	1100(-4) + 0101 (5) =1	1100(-4) + 0110 (6) =2	1100(-4) + 0111 (7) =3	1100(-4) + 1000 (-8) =4	1100(-) + 1001 (-7) =

1101(−3)+0000(0)=−3	1101(−3)+0001(1)=−2	1101(−3)+0010(2)=−1	**1101(−3)+0011(3)=0**	1101(−3)+0100(4)=1	1101(−3)+0101(5)=2	1101(−3)+0110(6)=3	1101(−3)+0111(7)=4	1101(−3)+1000(−8)=5	1101(−)+1001(−7)=
1110(−2)+0000(0)=−2	1110(−2)+0001(1)=−1	**1110(−2)+0010(2)=0**	1110(−2)+0011(3)=1	1110(−2)+0100(4)=2	1110(−2)+0101(5)=3	1110(−2)+0110(6)=4	1110(−2)+0111(7)=5	1110(−2)+1000(−8)=6	1110(−)+1001(−7)=
1111(−1)+0000(0)=−1	**1111(−1)+0001(1)=0**	1111(−1)+0010(2)=1	1111(−1)+0011(3)=2	1111(−1)+0100(4)=3	1111(−1)+0101(5)=4	1111(−1)+0110(6)=5	1111(−1)+0111(7)=6	1111(−1)+1000(−8)=7	1111(−)+1001(−7)=−8

In[◦]:=
```
Grid[Table[Item[ToExprFullString[X, Y],
    {Background → If[GetExprValue[NegativeFlag, X, Y], Blue, White]}],
   {X, 0, 16 - 1}, {Y, 0, 16 - 1}], Frame → All]
```

0000(0)+0000(0)=0	0000(0)+0001(1)=1	0000(0)+0010(2)=2	0000(0)+0011(3)=3	0000(0)+0100(4)=4	0000(0)+0101(5)=5	0000(0)+0110(6)=6	0000(0)+0111(7)=7	0000(0)+1000(8)=−8	0000(0)+100(7)=−7
0001(1)+0000(0)=1	0001(1)+0001(1)=2	0001(1)+0010(2)=3	0001(1)+0011(3)=4	0001(1)+0100(4)=5	0001(1)+0101(5)=6	0001(1)+0110(6)=7	0001(1)+0111(7)=8	0001(1)+1000(−8)=7	0001(1)+100(−7)=6
0010(2)+0000(0)=2	0010(2)+0001(1)=3	0010(2)+0010(2)=4	0010(2)+0011(3)=5	0010(2)+0100(4)=6	0010(2)+0101(5)=7	0010(2)+0110(6)=−8	0010(2)+0111(7)=−7	0010(2)+1000(−8)=−6	0010(2)+100(−7)=−5
0011(3)+0000(0)=3	0011(3)+0001(1)=4	0011(3)+0010(2)=5	0011(3)+0011(3)=6	0011(3)+0100(4)=7	0011(3)+0101(5)=−8	0011(3)+0110(6)=−7	0011(3)+0111(7)=−6	0011(3)+1000(8)=−5	0011(3)+100(7)=−4
0100(4)+0000(0)=4	0100(4)+0001(1)=5	0100(4)+0010(2)=6	0100(4)+0011(3)=7	0100(4)+0100(4)=8	0100(4)+0101(5)=7	0100(4)+0110(6)=6	0100(4)+0111(7)=5	0100(4)+1000(−8)=4	0100(4)+100(−7)=3
0101(5)+0000(0)=5	0101(5)+0001(1)=6	0101(5)+0010(2)=7	0101(5)+0011(3)=8	0101(5)+0100(4)=7	0101(5)+0101(5)=6	0101(5)+0110(6)=5	0101(5)+0111(7)=4	0101(5)+1000(−8)=3	0101(5)+100(−7)=2

Out[ ]=

0110(6)+0000(0)=6	0110(6)+0001(1)=7	0110(6)+0010(2)=8	0110(6)+0011(3)=-7	0110(6)+0100(4)=6	0110(6)+0101(5)=-5	0110(6)+0110(6)=-4	0110(6)+0111(7)=-3	0110(6)+1000(-8)=2	0110(6)+100...(-7)=1
0111(7)+0000(0)=7	0111(7)+0001(1)=-8	0111(7)+0010(2)=-7	0111(7)+0011(3)=-6	0111(7)+0100(4)=-5	0111(7)+0101(5)=-4	0111(7)+0110(6)=-3	0111(7)+0111(7)=-2	0111(7)+1000(-8)=-1	0111(7)+100...(-7)=0
1000(-8)+0000(0)=-8	1000(-8)+0001(1)=-7	1000(-8)+0010(2)=-6	1000(-8)+0011(3)=-5	1000(-8)+0100(4)=-4	1000(-8)+0101(5)=-3	1000(-8)+0110(6)=-2	1000(-8)+0111(7)=-1	1000(-8)+1000(-8)=0	1000(-8)+1001(-7)=
1001(-7)+0000(0)=-7	1001(-7)+0001(1)=-6	1001(-7)+0010(2)=-5	1001(-7)+0011(3)=-4	1001(-7)+0100(4)=-3	1001(-7)+0101(5)=-2	1001(-7)+0110(6)=-1	1001(-7)+0111(7)=0	1001(-7)+1000(-8)=1	1001(-7)+1001(-7)=
1010(-6)+0000(0)=-6	1010(-6)+0001(1)=-5	1010(-6)+0010(2)=-4	1010(-6)+0011(3)=-3	1010(-6)+0100(4)=-2	1010(-6)+0101(5)=-1	1010(-6)+0110(6)=0	1010(-6)+0111(7)=1	1010(-6)+1000(-8)=2	1010(-6)+1001(-7)=
1011(-5)+0000(0)=-5	1011(-5)+0001(1)=-4	1011(-5)+0010(2)=-3	1011(-5)+0011(3)=-2	1011(-5)+0100(4)=-1	1011(-5)+0101(5)=0	1011(-5)+0110(6)=1	1011(-5)+0111(7)=2	1011(-5)+1000(-8)=3	1011(-5)+1001(-7)=
1100(-4)+0000(0)=-4	1100(-4)+0001(1)=-3	1100(-4)+0010(2)=-2	1100(-4)+0011(3)=-1	1100(-4)+0100(4)=0	1100(-4)+0101(5)=1	1100(-4)+0110(6)=2	1100(-4)+0111(7)=3	1100(-4)+1000(-8)=4	1100(-4)+1001(-7)=
1101(-3)+0000(0)=-3	1101(-3)+0001(1)=-2	1101(-3)+0010(2)=-1	1101(-3)+0011(3)=0	1101(-3)+0100(4)=1	1101(-3)+0101(5)=2	1101(-3)+0110(6)=3	1101(-3)+0111(7)=4	1101(-3)+1000(-8)=5	1101(-3)+1001(-7)=
1110(-2)+0000(0)=-2	1110(-2)+0001(1)=-1	1110(-2)+0010(2)=0	1110(-2)+0011(3)=1	1110(-2)+0100(4)=2	1110(-2)+0101(5)=3	1110(-2)+0110(6)=4	1110(-2)+0111(7)=5	1110(-2)+1000(-8)=6	1110(-2)+1001(-7)=
1111(-1)+0000(0)=-1	1111(-1)+0001(1)=0	1111(-1)+0010(2)=1	1111(-1)+0011(3)=2	1111(-1)+0100(4)=3	1111(-1)+0101(5)=4	1111(-1)+0110(6)=5	1111(-1)+0111(7)=6	1111(-1)+1000(-8)=7	1111(-1)+1001(-7)=8

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In[◦]:= Grid[Table[Item[ToExprFullString[X, Y],
        격자    목록…   항목

        {Background → SmartBlend[{If[GetExprValue[Overflow1, X, Y], Blue, Nothing],
         배경                    만약                              파랑   자동 삭제되는 요

            If[GetExprValue[Zero, X, Y], Green, Nothing],
            만약                         녹색   자동 삭제되는 요소

            If[GetExprValue[NegativeFlag, X, Y], Red, Nothing]}]}],
            만약                                 빨강  자동 삭제되는 요소

        {X, 0, 16 - 1}, {Y, 0, 16 - 1}], Frame → All]
                                                 테두리   모든
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0000(0) +0000 (0)=0	0000(0) +0001 (1)=1	0000(0) +0010 (2)=2	0000(0) +0011 (3)=3	0000(0) +0100 (4)=4	0000(0) +0101 (5)=5	0000(0) +0110 (6)=6	0000(0) +0111 (7)=7	0000(0) +1000 (−8) =−8	0000(0 +100 (−7 =−7
0001(1) +0000 (0)=1	0001(1) +0001 (1)=2	0001(1) +0010 (2)=3	0001(1) +0011 (3)=4	0001(1) +0100 (4)=5	0001(1) +0101 (5)=6	0001(1) +0110 (6)=7	0001(1) +0111 (7)= −8	0001(1) +1000 (−8) =−7	0001(1 +100 (−7 =−6
0010(2) +0000 (0)=2	0010(2) +0001 (1)=3	0010(2) +0010 (2)=4	0010(2) +0011 (3)=5	0010(2) +0100 (4)=6	0010(2) +0101 (5)=7	0010(2) +0110 (6)= −8	0010(2) +0111 (7)= −7	0010(2) +1000 (−8) =−6	0010(2 +100 (−7 =−5
0011(3) +0000 (0)=3	0011(3) +0001 (1)=4	0011(3) +0010 (2)=5	0011(3) +0011 (3)=6	0011(3) +0100 (4)=7	0011(3) +0101 (5)= −8	0011(3) +0110 (6)= −7	0011(3) +0111 (7)= −6	0011(3) +1000 (−8) =−5	0011(3 +100 (−7 =−4
0100(4) +0000 (0)=4	0100(4) +0001 (1)=5	0100(4) +0010 (2)=6	0100(4) +0011 (3)=7	0100(4) +0100 (4)= −8	0100(4) +0101 (5)= −7	0100(4) +0110 (6)= −6	0100(4) +0111 (7)= −5	0100(4) +1000 (−8) =−4	0100(4 +100 (−7 =−3
0101(5) +0000 (0)=5	0101(5) +0001 (1)=6	0101(5) +0010 (2)=7	0101(5) +0011 (3)= −8	0101(5) +0100 (4)= −7	0101(5) +0101 (5)= −6	0101(5) +0110 (6)= −5	0101(5) +0111 (7)= −4	0101(5) +1000 (−8) =−3	0101(5 +100 (−7 =−2
0110(6) +0000 (0)=6	0110(6) +0001 (1)=7	0110(6) +0010 (2)= −8	0110(6) +0011 (3)= −7	0110(6) +0100 (4)= −6	0110(6) +0101 (5)= −5	0110(6) +0110 (6)= −4	0110(6) +0111 (7)= −3	0110(6) +1000 (−8) = −2	0110(6 +100 (−7 =−1
0111(7) +0000 (0)=7	0111(7) +0001 (1)= −8	0111(7) +0010 (2)= −7	0111(7) +0011 (3)= −6	0111(7) +0100 (4)= −5	0111(7) +0101 (5)= −4	0111(7) +0110 (6)= −3	0111(7) +0111 (7)= −2	0111(7) +1000 (−8) =−1	0111(7 +100 (−7 =0
1000(−8)+ 0000(0)=−8	1000(−8)+ 0001(1)=−7	1000(−8)+ 0010(2)=−6	1000(−8)+ 0011(3)=−5	1000(−8)+ 0100(4)=−4	1000(−8)+ 0101(5)=−3	1000(−8)+ 0110(6)=−2	1000(−8)+ 0111(7)=−1	1000(−8)+ 1000(−8)=0	1000( )− 1001(−7)

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Out[◦]=
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1001 (−7) + 0000 (0) =−7	1001 (−7) + 0001 (1) =−6	1001 (−7) + 0010 (2) =−5	1001 (−7) + 0011 (3) =−4	1001 (−7) + 0100 (4) =−3	1001 (−7) + 0101 (5) =−2	1001 (−7) + 0110 (6) =−1	1001 (−7) + 0111 (7) =0	1001 (−7) + 1000 (8) =1	1001 (−) + 1001 7)
1010 (−6) + 0000 (0) =−6	1010 (−6) + 0001 (1) =−5	1010 (−6) + 0010 (2) =−4	1010 (−6) + 0011 (3) =−3	1010 (−6) + 0100 (4) =−2	1010 (−6) + 0101 (5) =−1	1010 (−6) + 0110 (6) =0	1010 (−6) + 0111 (7) =1	1010 (−6) + 1000 (8) =2	1010 (−) − 1001 7)
1011 (−5) + 0000 (0) =−5	1011 (−5) + 0001 (1) =−4	1011 (−5) + 0010 (2) =−3	1011 (−5) + 0011 (3) =−2	1011 (−5) + 0100 (4) =−1	1011 (−5) + 0101 (5) =0	1011 (−5) + 0110 (6) =1	1011 (−5) + 0111 (7) =2	1011 (−5) + 1000 (−8) =3	1011 (−) − 1001 −7)
1100 (−4) + 0000 (0) =−4	1100 (−4) + 0001 (1) =−3	1100 (−4) + 0010 (2) =−2	1100 (−4) + 0011 (3) =−1	1100 (−4) + 0100 (4) =0	1100 (−4) + 0101 (5) =1	1100 (−4) + 0110 (6) =2	1100 (−4) + 0111 (7) =3	1100 (−4) + 1000 (8) =4	1100 (−) + 1001 7)
1101 (−3) + 0000 (0) =−3	1101 (−3) + 0001 (1) =−2	1101 (−3) + 0010 (2) =−1	1101 (−3) + 0011 (3) =0	1101 (−3) + 0100 (4) =1	1101 (−3) + 0101 (5) =2	1101 (−3) + 0110 (6) =3	1101 (−3) + 0111 (7) =4	1101 (−3) + 1000 (8) =5	1101 (−) − 1001 7)
1110 (−2) + 0000 (0) =−2	1110 (−2) + 0001 (1) =−1	1110 (−2) + 0010 (2) =0	1110 (−2) + 0011 (3) =1	1110 (−2) + 0100 (4) =2	1110 (−2) + 0101 (5) =3	1110 (−2) + 0110 (6) =4	1110 (−2) + 0111 (7) =5	1110 (−2) + 1000 (−8) =6	1110 (−) − 1001 −7)
1111 (−1) + 0000 (0) =−1	1111 (−1) + 0001 (1) =0	1111 (−1) + 0010 (2) =1	1111 (−1) + 0011 (3) =2	1111 (−1) + 0100 (4) =3	1111 (−1) + 0101 (5) =4	1111 (−1) + 0110 (6) =5	1111 (−1) + 0111 (7) =6	1111 (−1) + 1000 (8) =7	1111 (−) + 1001 −7) −8