Decimal Number	4-bit Binary Number	Hexadecimal Number
0	0000	0
1	0001	1
2	0010	2
3	0011	3
4	0100	4
5	0101	5
6	0110	6
7	0111	7
8	1000	8
9	1001	9
10	1010	A
11	1011	B
12	1100	C
13	1101	D
14	1110	E
15	1111	F

How to convert decimal to binary

Conversion steps:

1. Divide the number by 2.
2. Get the integer quotient for the next iteration.
3. Get the remainder for the binary digit.
4. Repeat the steps until the quotient is equal to 0.

Example #1

Convert 13_{10} to binary:

Division by 2	Quotient	Remainder	Bit #
13/2	6	1	0
6/2	3	0	1
3/2	1	1	2
1/2	0	1	3

So $13_{10} = 1101_2$

How to convert from decimal to hex

Conversion steps:

1. Divide the number by 16.
2. Get the integer quotient for the next iteration.
3. Get the remainder for the hex digit.
4. Repeat the steps until the quotient is equal to 0.

Example #1

Convert 7562_{10} to hex:

Division by 16	Quotient	Remainder (decimal)	Remainder (hex)	Digit #
7562/16	472	10	A	0
472/16	29	8	8	1
29/16	1	13	D	2
1/16	0	1	1	3

So $7562_{10} = 1D8A_{16}$