

Reviewer

Monday, September 16, 2024 10:13 PM

Decimal: 0-9 Binary: 0-1
Octal: 0-7 Hexadecimal: 0-9, A-F

Decimal to Binary $\div 2$

57: 111001

57/2	q 28	r 1
28/2	14	0
14/2	7	0
7/2	3	1
3/2	1	1
1/2	0	1

Decimal to Octal $\div 8$

57: 71

57/8	q 7	r 1
7/8	0	7

Decimal to Hexadecimal $\div 16$

57: 39

57/16	q 3	r 9
3/16	0	3

Binary to Decimal $\cdot 2^n$

1100110: 102

$$= 2^6 + 2^5 + 2^2 + 2^1$$

$$64 + 32 + 4 + 2$$

Octal to Decimal

146: 102

$$(8^2 \cdot 1) + (8^1 \cdot 4) + (8^0 \cdot 6)$$

$$64 + 32 + 6$$

Hexadecimal to Decimal

BC5: 3013

B: 11 C: 12

$$(11 \cdot 16^2) + (12 \cdot 16^1) + (5 \cdot 16^0)$$

$$2816 + 192 + 5$$

$$\underbrace{\hspace{10em}}_{3008} + 5$$

Binary to Octal 3 group

1110101011: 3527

11	101	010	111
4_{21}	4_{21}	4_{21}	4_{21}
3	5	2	7

Binary to Hexadecimal 4 group

1110101011: 757

111	0101	0111
4_{21}	8_{421}	4_{21}

Octal to Binary

3527: 011 101 010 111

3	5	2	7
4 2 1	4 2 1	4 2 1	4 2 1
0 1 1	1 0 1	0 1 0	1 1 1

Hexadecimal to Binary

757: 0111 0101 0111

7	5	7
8 4 2 1	8 4 2 1	8 4 2 1
0 1 1 1	0 1 0 1	0 1 1 1

Octal to Hexadecimal

1st: Oct to Bin (3 group)

2nd: Bin to Hex

3527: 757

3	5	2	7
4 2 1	4 2 1	4 2 1	4 2 1
0 1 1	1 0 1	0 1 0	1 1 1

(011
7 0101
5 0111
7)

Hexadecimal to Octal

1st: Hex to Bin (4 group)

2nd: Bin to Octal

757: 3527

7	5	7
8 4 2 1	8 4 2 1	8 4 2 1
0 1 1 1	0 1 0 1	0 1 1 1

(011
3 101
5 010
2 111
7)