Octal into Binary

Binary into Octal

Use Table

Table Making Procedure

Octal into Binary

Binary into Octal

Binary = 2

Octal = 8

What should be the power of 2 to get the answer 8 ?

$$2^{?}=8$$

Ans) $2 \times 2 \times 2 = 8 \rightarrow 2^3$

Conversion from Binary into Octal & Octal to Binary

Table will be used FOR

How to Make the Table

3 columns → $2^3 = 8$ ← 8 rows

	2^2	2^1	2^0
	4	2	1
0	0	0	0
1	0	0	1
2	0	1	0
3	0	1	1
4	1	0	0
5	1	0	1
6	1	1	0
7	1	1	1

8 / 2 = 4

Write four times 0
Then Write four times 1

4 / 2 = 2

Write two times 0
Then Write two times 1
Still some boxes of this column are empty, So again repeat
Write two times 0
Then Write two times 1 (Now col is filled completely)

2 / 2 = 1

Write one time 0
Write one time 1
Is Column completely filled ? NO….
Carry on till whole this column is filled

Octal into Binary

Binary into Octal

Use Table

Octal into Binary

Table will be used FOR

Convert $(25)_8 = (\ ?\ )_2$

$2^3 = 8$

Whole number

$(25)_8$

	2^2	2^1	2^0
	4	2	1
0	0	0	0
1	0	0	1
2	0	1	0
3	0	1	1
4	1	0	0
5	1	0	1
6	1	1	0
7	1	1	1

2 → 010

5 → 101

Answer: 010101

$(25)_8 = (10101)_2$

Octal into Binary

Table will be used FOR

Convert $(76.4)_8 = (\ )_2$?

	2^2	2^1	2^0
	4	2	1
0	0	0	0
1	0	0	1
2	0	1	0
3	0	1	1
4	1	0	0
5	1	0	1
6	1	1	0
7	1	1	1

$(76.4)_8$

$2^3 = 8$

Floating point number

7	6	.	4
111	110		100

111110.100

Answer

$(76.4)_8 = (111110.100)_2$

Octal into Binary

Binary into Octal

Use Table

Binary into Octal

Table will be used FOR

Convert $(10110)_2 = (\quad)_8$???

	2^2	2^1	2^0
	4	2	1
0	0	0	0
1	0	0	1
2	0	1	0
3	0	1	1
4	1	0	0
5	1	0	1
6	1	1	0
7	1	1	1

$(10110)_2$

$2^3 = 8$

Whole number

010 110

2 6

26

Answer

$(10110)_2 = (26)_8$

Binary into Octal

Table will be used FOR

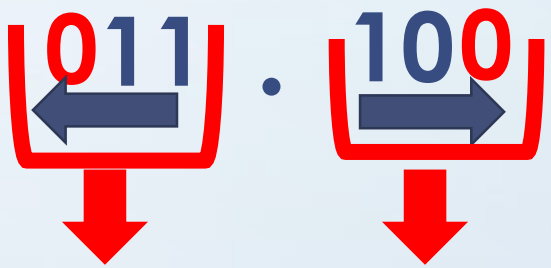
Convert $(11.10)_2 = (\quad)_8$???

$(11.10)_2$

$2^3 = 8$

Floating point number

	2^2	2^1	2^0
	4	2	1
0	0	0	0
1	0	0	1
2	0	1	0
3	0	1	1
4	1	0	0
5	1	0	1
6	1	1	0
7	1	1	1



Answer

$(11.10)_2 = (3.4)_8$