
Octal into Binary
Binary into Octal
Use Table
HexaDecimal into Binary
Binary into Hexadecimal
Use Table

Table Making Procedure

Conversion from Hexadecimal into Binary

Conversion from Binary into Hexadecimal

Binary = 2

Hexadecimal = 16

What should be the power of 2 to get the answer 16 ?

$$2^{?}=16$$

Ans) 2 x 2 x 2 x 2 = 16 → 2^4

How to Make the Table

Table will be used FOR

	2^3	2^2	2^1	2^0
	8	4	2	1
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
A 10	1	0	1	0
B 11	1	0	1	1
C 12	1	1	0	0
D 13	1	1	0	1
E 14	1	1	1	0
F 15	1	1	1	1

4 columns

16 rows

$2^4 = 16$

16 / 2 = 8

Write eight times 0
Then Write eight times 1

8 / 2 = 4

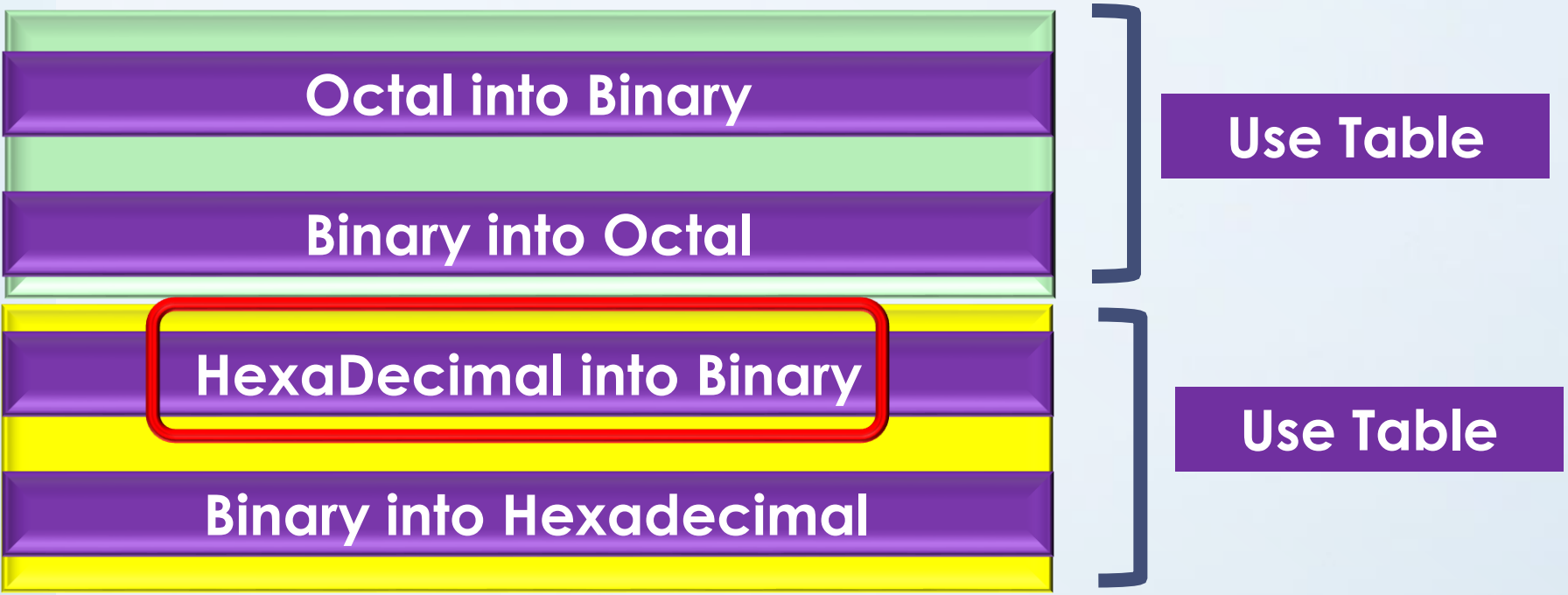
Write four times 0
Then Write four times 1
Still some boxes of this column are empty, So again repeat
Write four times 0
Then Write four times 1 (Carry on till whole this column is filled)

4 / 2 = 2

Write two times 0
Write two times 1
Is Column completely filled ?
Carry on till whole this column is filled

2 / 2 = 1

Write one time 0
Write one time 1
Is Column completely filled ?
Carry on till whole this column is filled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Hexadecimal into Binary

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Convert $(64)_{16} = (\quad)_2$?

$2^4 = 16$

Whole number

6 → 0110

4 → 0100

Answer

$(64)_{16} = (01100100)_2$

Hexadecimal into Binary

Table will be used FOR

Convert $(5C.E)_{16} = (\ )_2$?

$2^4 = 16$

Floating point number

	2^3	2^2	2^1	2^0
	8	4	2	1
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
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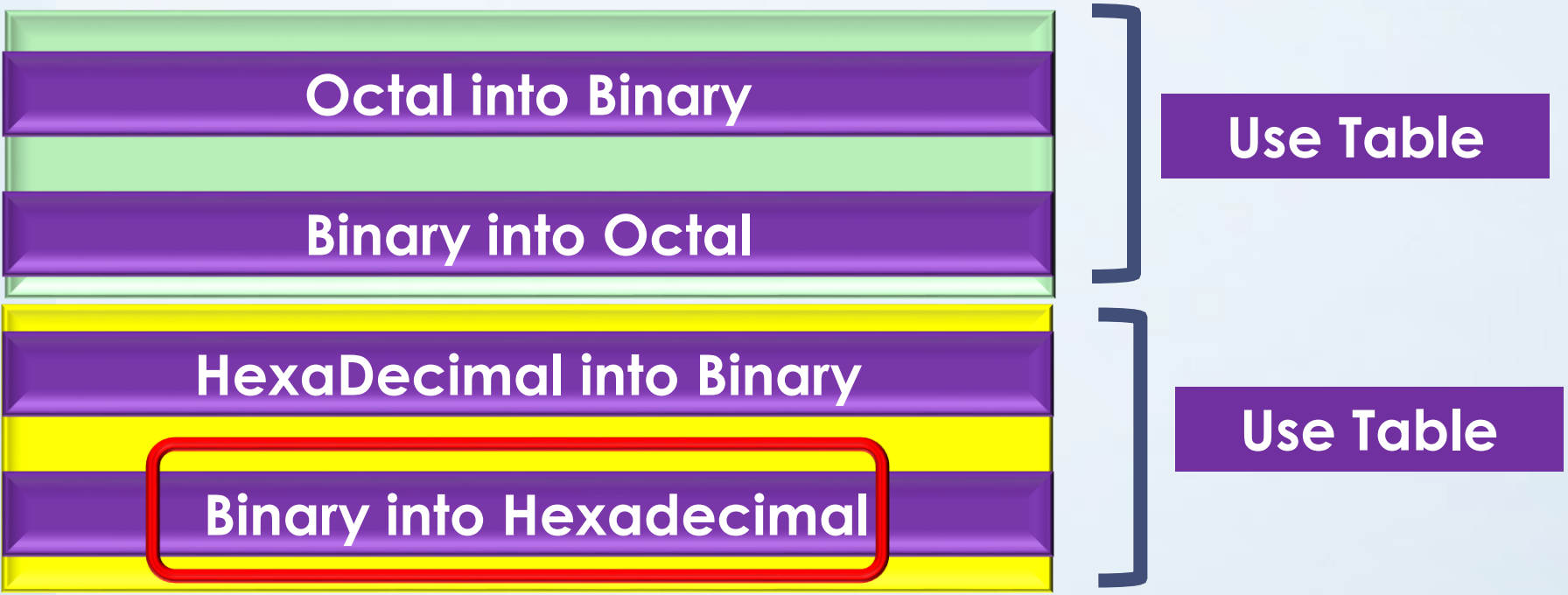
5	C	.	E
↓	↓		↓
0101	1100		1110

Answer

$(5C.E)_{16} = (01011100.1110)_2$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Binary into Hexadecimal

Table will be used FOR

	2^3	2^2	2^1	2^0
	8	4	2	1
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
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Convert $(1001101)_2 = (\quad)_{16}$???

$2^4 = 16$

Whole number

0100 1101

4 D

Answer

$(1001101)_2 = (\ 4\ D\ )_{16}$

Binary into Hexadecimal

Table will be used FOR

Convert $(11.1101)_2 = (\quad)_{16}$?

$2^4 = 16$

Floating point number

	2^3	2^2	2^1	2^0
	8	4	2	1
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
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A 10	1	0	1	0
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C 12	1	1	0	0
D 13	1	1	0	1
E 14	1	1	1	0
F 15	1	1	1	1

0011 . 1101

3 . D

Answer

$(11.1101)_2 = (3.D)_{16}$