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Binary and Decimal to Octal and Hexadecimal – Vice Versa YouTube Lecture Handouts for Competitive Exams

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What is Binary, Decimal, Octal and Hexadecimal?

Binary to Decimal (Including Fractions) and Vice Versa

Case I

Binary to Octal – 10110_2

Answer: 26_8

Case II

Octal to Binary – 653_8

Answer: 110101011_2

Octal Symbol	Binary equivalent
0	000
1	001
2	010
3	011
4	100
5	101
6	110
7	111

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Case III

- Octal to Decimal – 143_8
- Answer: 99_{10}

Case IV

- Decimal to Octal – 214_{10}
- Answer: 326_8

Case V

- Binary to Hexadecimal – 11000110_2
- Answer: $C6_{16}$

Case VI

- Hexadecimal to Binary – DB_{16}
- Answer: 110110110101_2

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

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Case VII

- Hexadecimal to Decimal – $A59C_{16}$
- Answer: 42396_{10}

$$\begin{array}{r}
 10 \times 16^3 = 40960 \\
 5 \times 16^2 = 1280 \\
 9 \times 16^1 = 144 \\
 \underline{12 \times 16^0 = + 12} \\
 42,396
 \end{array}$$

A
5
9
C

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Case VIII

- Decimal to Hexadecimal – 973_{10}
- Answer: $3CD_{16}$

-Mayank

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