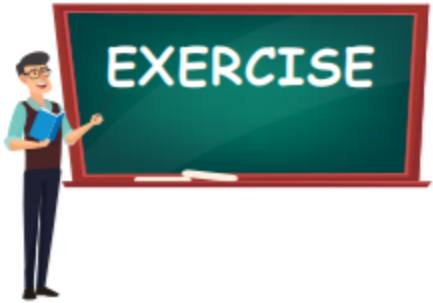

1. State Yes or No for the give numbers for the specified base

i. $(2159)_8$ Valid octal number? .....

ii. $(10011)_2$ Valid binary number? .....

iii. $(9ACE)_{16}$ Valid hexadecimal number? .....

iv. $(68B8)_{10}$ Valid decimal number? .....

v. $(1000101)_8$ Valid octal number? .....

vi. $(777)_8$ Valid octal number? .....

vii. $(9999)_{16}$ Valid hexadecimal number? .....

viii. $(10101010)_{10}$ Valid decimal number? .....

ix. (A0B0C0) Valid binary number? .....

x. $(1000)_{16}$ Valid hexadecimal number? .....

2. Convert the following Binary numbers to Decimal

i. $(101)_2$

ii. $(1011)_2$

iii. $(1111)_2$

iv. $(1101)_2$

v. $(1010)_2$

vi. $(100011)_2$

vii. $(10111)_2$

viii. $(101101)_2$

ix. $(111110)_2$

x. $(111001)_2$

3. Convert the following Decimal numbers to Binary :

i. $(29)_{10}$

ii. $(71)_{10}$

iii. $(43)_{10}$

iv. $(101)_{10}$

v. $(11)_{10}$

vi. $(110)_{10}$

vii. $(125)_{10}$

viii. $(362)_{10}$

ix. $(225)_{10}$

x. $(467)_{10}$

Few Interesting Binary Number Facts

If the last digit of a binary number is 0, then its equivalent decimal number is **even**

If the last digit of a binary number is 1, then its equivalent decimal number is **odd**

Ex: $(1101)_2$ represents decimal number $(13)_{10}$ which is odd.

Ex: $(10010)_2$ represents decimal number $(18)_{10}$ which is even.

- Binary 10 is equivalent to Decimal 2.
- Binary 100 is equivalent to Decimal 4
- Binary 1000 is equivalent to Decimal 8 .. and so on

The modern binary number system was fully documented by German Mathematician Gottfried Leibniz. Binary system, is the foundation of virtually all modern computer processing.