Number system

```
1.Binary
2.octal
3.decimal
4.hexa decimal
```

1.Binary

Note: we can convert any number system into binary using **bin()** function

```
---> a binary no is indicated with 0b or 0B at starting of the no
-->octal to binary
-->decimal to binary
-->hexa decimal to binary
```

any number system to binary

In [15]:

```
#example
a,b,c= 0o12,123,0x12
print(bin(a))
print(bin(b))
print(bin(c))
```

```
0b1010
0b1111011
0b10010
```

2.octal

Note: we can convert any number system into octal using **oct()** function

--->a octal no is indicated with 0o or 0O at starting of the no

In [16]:

```
#example
a,b,c= 1000101,123,0x12
print(oct(a))
print(oct(b))
print(oct(c))
```

```
0o3641245
0o173
0o22
```

3.decimal

Note: we can convert any number system into decimal using **int()** function

In [18]:

```
#example
a,b,c= 0b00101,0o123,0x12
print(int(a))
print(int(b))
print(int(c))
```

```
5
83
18
```

4.hexa decimal

Note: we can covert any number system into hexa decimal using **hex()** function

-->a hexa decimal no is indicated with 0x or 0X at starting of the no

In [19]:

```
#example
a,b,c= 0b00101,0o123,12
print(hex(a))
print(hex(b))
print(hex(c))
```

```
0x5
0x53
0xc
```

lastly we can convert any no system into decimal in this way also

In [22]:

```
#ex:
a,b,c= 0b00101,0o123,0x12
d,e,f='0b00101','0o123','0x12'
print(int(a),int(d,2))
print(int(b),int(e,8))
print(int(c),int(f,16))
```

```
5 5
83 83
18 18
```

In [23]:

```
#ex1
a='0b00101'
print(int(a,2))
```

```
5
```

In [25]:

```
#ex2
a='0o12'
print(int(a,8))
```

```
10
```

In [26]:

```
#ex3
a='0x12'
print(int(a,16))
```

```
18
```