```
In [1]:   12<<2
```

```
Out[1]:   48
```

```
In [3]:   12>>1
```

```
Out[3]:   6
```

```
In [4]:   bin(12)
```

```
Out[4]:   '0b1100'
```

Swapping Numbers

```
In [29]:   a = 5
           b = 10
```

```
In [30]:   # swapping numbers without using 3rd variable
           a = a + b # 5 + 10 = 15
           b = a - b # 15 - 10 = 5
           a = a - b # 15 -5 = 10
```

```
In [31]:   print (a, b)
```

```
10 5
```

```
In [32]:   a,b = 1,2
```

```
In [33]:   #swapping numbers using 3rd variable
           temp = a
           a = b
           b = temp
```

```
In [34]:   print (a,b)
```

```
2 1
```

```
In [35]:   #swapping numbers using XOR
           a = a ^ b
           b = a ^ b
           a = a ^ b
```

```
In [36]:   print(a,b)
```

```
1 2
```

```
In [37]:   a,b = b,a #ROT TWO, Rotational concepts
```

```
In [38]:   print(a)
           print(b)
```

```
2
1
```

```
In [ ]:
```