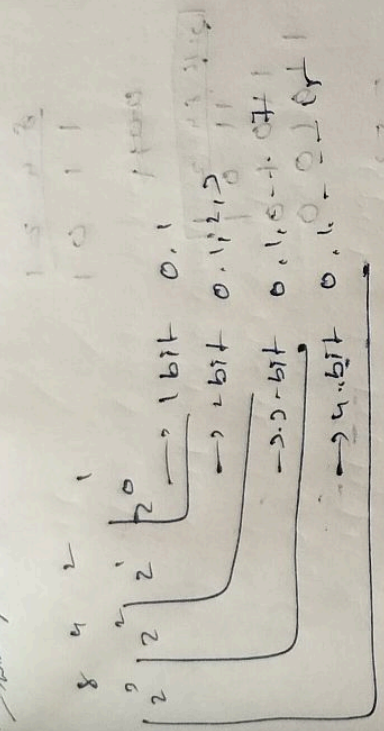


10-09-25

Bitwise operators: $(4) \sim >> <<$

Binary representation of values



$2^1 2^0$
 $\boxed{2 \ 1 \ 1}$
 $0 \ 0 = 0$
 $0 \ 1 = 1$
 $1 \ 0 = 2$
 $1 \ 1 = 3$

$2^2 \ 2^1 \ 2^0$
 $\boxed{4 \ 2 \ 1}$

$0 \ 0 \ 0 = 0$
 $0 \ 0 \ 1 = 1$
 $0 \ 1 \ 0 = 2$
 $0 \ 1 \ 1 = 3$

$1 \ 0 \ 0 = 4$
 $1 \ 0 \ 1 = 5$
 $1 \ 1 \ 0 = 6$
 $1 \ 1 \ 1 = 7$

8 4 2 bits value to number

$12 \Rightarrow 1100$
 $5 \Rightarrow 0101$
 $1 \Rightarrow 0001$
 $6 \Rightarrow 0110$

12 & 5 12 | 5

4 3

$1100 \oplus 0101 = 1001$
 $1001 = 9$

To
 $13 > 2 = 3$
 $13 < 2 = 52$

~~8-4-2-1~~
 1 1 0 1

2 2 2 1
 1 1 0 1
 1 1 0
 1 1
 = 3

~~2 2 2 1~~
 1 1 0 1
 1 1 0 1 0
 1 1 0 1 0 0
 = 52

Nested if else;

Syntax:-

```
if (cond1): #outer if
    if (cond2): #inner if
        statements of inner if
    else:
        statements of inner else
```

```
else:
    statements of outer else.
```

```
n = int(input())
```

```
< if (n > 0):
```

```
    if (n > 0):
```

```
        print("+ve")
```

```
    else:
```

```
        print("Zero")
```

```
else:
```

```
    print("-ve")
```