

## 2. Relational Operators

>> These will check the relation between operands & it will return a result as either 'True' or 'False'.

e.g: ==, >, <, >=, <=, !=

TRUE -> 1 (o/p)

FALSE -> 0 (o/p)

### Types:

1. equals to: '==' OR '-eq'
2. not equals to: '!=' OR '-ne'
3. greater than: '>' OR '-gt'
4. less than: '<' OR '-lt'
5. greater than equal to: '>=' OR '-ge'
6. less than equal to: '<=' OR '-le'

-> Symbols: operation (+, -, \*, /, %)

-> Alphabetical Representation: loops & conditional statements

### SCRIPT: COMPARE 2 NUMBERS & CHECK THE RELATION B/W THEM USING ALL RELATIONAL OPERATORS

```
a=10  
b=5
```

```
$((a == b))
```

## 3. Logical Operators

>> These operators will check the condition & compare the inputs/values & it will do logical operation on it. Then, it returns the o/p as 'True' / 'False'.

### Types :

1. Logical AND
2. Logical OR
3. Logical NOT

-> Input here can be either 'True' OR 'False'.

-> False value: 0  
-> True value: Anything other than 0

-> Possible combination: T T  
T F  
F T  
F F

-> False value for a string: Empty/null string  
-> True value: anything inside a string

### 1. Logical AND -> &&

| Input |   | Output |
|-------|---|--------|
| a     | b |        |
| 1     | 1 | 1      |
| 1     | 0 | 0      |
| 0     | 1 | 0      |
| 0     | 0 | 0      |

AND -> if given both/all the conditions are 'TRUE', then only the o/p will be 'TRUE'.

-> If even one condition is 'FALSE', the o/p will be 'FALSE'.

### 2. Logical OR -> ||

| Input |   | Output |
|-------|---|--------|
| a     | b |        |
| 1     | 1 | 1      |
| 1     | 0 | 1      |
| 0     | 1 | 1      |
| 0     | 0 | 0      |

OR -> if given any one condition is 'TRUE', the o/p will be 'TRUE'.

-> If both conditions are 'FALSE', the only the o/p will be 'FALSE'.

### 3. Logical NOT -> !

NOT -> It will inverse the given condition/input & give the o/p.

| Input | Output |
|-------|--------|
| 0     | 1      |
| 1     | 0      |

```
input(a);  
echo $(!a))
```

### SCRIPT: WRITE A SCRIPT TO PERFORM ALL LOGICAL OPERATIONS

