

## 1. What are the two values of the Boolean data type? How do you write them?

The two values of Boolean Data type are **True** & **False**.  
we can write them by assigning to variable

## 2. What are the three different types of Boolean operators?

**Boolean or Logical Operators:** "and", "or", "not".

Operator	Meaniing	Example
and	True if both the operands are true	x and y
or	True if either of the operands is true	x or y
not	True if operand is false	not x

## 3. Make a list of each Boolean operator's truth tables (i.e. every possible combination of Boolean values for the operator and what it evaluate ).

### Boolean Operator's Truth Tables

#### 1. "and" Truth Table

x	y	x and y
True	True	True
True	False	False
False	True	False
False	False	False

#### 2. "or" Truth Table

x	y	x and y
True	True	True
True	False	True
False	True	True
False	False	False

#### 3. "not" Truth Table

x	not x
True	False
False	True

## 4. What are the values of the following expressions?

- $(5 > 4) \text{ and } (3 == 5) \Rightarrow \text{False}$
- $\text{not } (5 > 4) \Rightarrow \text{False}$
- $(5 > 4) \text{ or } (3 == 5) \Rightarrow \text{True}$
- $\text{not } ((5 > 4) \text{ or } (3 == 5)) \Rightarrow \text{False}$
- $(\text{True and True}) \text{ and } (\text{True} == \text{False}) \Rightarrow \text{False}$
- $(\text{not False}) \text{ or } (\text{not True}) \Rightarrow \text{True}$

## 5. What are the six comparison operators?

- == Equal to
- != Not equal to
- < Less than
- > Greater than
- <= Less than or equal to
- >= Greater than or equal to

## 6. How do you tell the difference between the equal to and assignment operators? Describe a condition and when you would use one.

- equal to operator used to check if two values are equal. And returns boolean value either True or False. while assignment operator use to assign values to a variable

Example

```
x = 5
y = 7
if x == y:
    print("x is equal to y")
else:
    print("x is not equal to y")
```

## 7. Identify the three blocks in this code:

```
spam = 0
if spam == 10:
    print('eggs')
if spam > 5:
    print('bacon')
else:
    print('ham')
    print('spam')
    print('spam')
```

## 8. Write code that prints Hello if 1 is stored in spam, prints Howdy if 2 is stored in spam, and prints Greetings! if anything else is stored in spam.

```
spam = 0
if spam == 1:
    print('Hello')
elif spam > 2:
    print('Howdy')
else:
    print('Greetings!')
```