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

**Ans:**  The two values of Boolean data types are True and False. It should always be written as “**True**” and “**False**” only.

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

**Ans:** The three basic boolean operators are: AND, OR, and NOT.

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 ).

**Ans:**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **AND** | | | **OR** | | | **NOT** | |
| 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 |
| 1 | 0 | 1 | 0 | 1 | 0 |
| 1 | 1 | 1 | 1 | 1 | 1 |

4. What are the values of the following expressions?

(5 > 4) and (3 == 5)

not (5 > 4)

(5 > 4) or (3 == 5)

not ((5 > 4) or (3 == 5))

(True and True) and (True == False)

(not False) or (not True)

**Ans:**

1. (5 > 4) and (3 == 5) 🡪 False
2. not (5 > 4) 🡪 False
3. (5 > 4) or (3 == 5) 🡪True
4. not ((5 > 4) or (3 == 5)) 🡪 False
5. (True and True) and (True == False) 🡪 False
6. (not False) or (not True) 🡪 True

5. What are the six comparison operators?

**Ans:** Equal to, not equal to, greater than, greater than or equal to, less than, and less than or equal to are the 6 comparison operator

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

**Ans:** Equal to is a comparison operator denoted as “==” where as assignment operator is denoted as ‘’=”.

As the name suggest Equal to being a comparison operator compares the value between two variable. We usually use this in if statement.

Eg: if a == b

Assignment operator is used to assign a value to variable,

Eg: a = 10

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')

**Ans:**

**Proper indented code will be:**

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.

**Ans:**

**Code:**

spam = 1

if spam == 1:

print("Hello")

elif spam ==2:

print("Howdy")

else:

print("Greetings")

**Output:** Hello

9.If your programme is stuck in an endless loop, what keys you’ll press?

**Ans: Ctrl + C**

10. How can you tell the difference between break and continue?

**Ans:** While iterating through a loop break statement will stop executing loop and move to the next statement after the loop.

In a loop if continue statement is encountered, the remaining statements of that iteration are skipped and moved to the next iteration of the same loop.

Continue statement take the control of the program to the start of the loop where as the break statement take the control of the program to the end of the loop.

11. In a for loop, what is the difference between range(10), range(0, 10), and range(0, 10, 1)?

**Ans:** There is no difference in any of the 3, they are just different ways of creating a iteration of numbers ranging from 0 to 9.

12. Write a short program that prints the numbers 1 to 10 using a for loop. Then write an equivalent program that prints the numbers 1 to 10 using a while loop.

**Ans:**

**Using For loop**

for i in range(1,11):

print(i)

**Using While loop**

i=1

while(i<=10):

print(i)

i += 1

13. If you had a function named bacon() inside a module named spam, how would you call it after importing spam?

**Ans:** spam.**bacon()**.