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

**Ans:**

Two values of Boolean data type are True and False. We write first letter of Boolean value in capital letter and remaining letters in lowercase. **True, False**

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

**Ans**:

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 evaluates).

**Ans:**

**AND**

|  |  |
| --- | --- |
| True and True | True |
| True and False | False |
| False and True | False |
| False and False | False |

**OR**

|  |  |
| --- | --- |
| True or True | True |
| True or False | True |
| False or True | True |
| False or False | False |

**NOT**

|  |  |
| --- | --- |
| not True | False |
| not False | True |

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**:

(5 > 4) and (3 == 5) 🡪 **False**

not (5 > 4) 🡪 **False**

(5 > 4) or (3 == 5) 🡪 **True**

not ((5 > 4) or (3 == 5)) 🡪 **False**

(True and True) and (True == False) 🡪 **False**

(not False) or (not True) 🡪 **True**

5. What are the six comparison operators?

**Ans:**

Comparison operators are:

**<**, **>**, **<=**, **>=**, **==** and **!=**

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 the comparison operator which compares two values and evaluates to a Boolean value.

**Assignment operator (=)** stores a value to the variable.

**Condition** is an expression in flow control statement which evaluates to a Boolean value.

Eg:

num1 = 4

num2 = 4

if num1 == num2:

print(“ Numbers are equal”)

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:**

Note: In question, indentations are not given properly.

**1st** **block-** Everything after 1st if statement

print('eggs')

if spam > 5:

print('bacon')

else:

print('ham')

print('spam')

**2nd block-** Everything that comes under 2nd if statement.

print('bacon')

**3rd block-** Everything that comes under else statement.

print('ham')

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:**

If spam == 1:

print(“Hello”)

elif spam == 2:

print(“Howdy”)

else:

print(“Greetings!”)

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:**

**Continue** will move the execution to the start of the loop.

**Break** will move the execution outside the loop (exit the loop).

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

**Ans:**

All do the same thing. It will loop over starting with 0, up to 10 (excluding 10), on a step size of 1.

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:**

**For loop**

for i in range(1, 11):

print(i)

**while loop**

num = 1

while num <= 10:

print(num)

num +=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()