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

- The two values of the Boolean data type are true and false. We write them by giving a condition. If the condition is true then output is true else if the condition is false then the output is false.

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

- The 3 different types of Boolean operators are AND(&&), OR(||) and NOT(!) operators.

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 ).

|  |  |  |
| --- | --- | --- |
| X | Y | X+Y= OR OPERATOR |
| 0 | 0 | 0 |
| 0 | 1 | 1 |
| 1 | 0 | 1 |
| 1 | 1 | 1 |

|  |  |  |
| --- | --- | --- |
| X | Y | X\*Y= AND OPERATOR |
| 0 | 0 | 0 |
| 0 | 1 | 0 |
| 1 | 0 | 0 |
| 1 | 1 | 1 |

|  |  |
| --- | --- |
| X | X’= NOT OPERATOR |
| 0 | 1 |
| 1 | 0 |

4. What are the values of the following expressions?

(5 > 4) and (3 == 5) = FALSE(0)

not (5 > 4) = FALSE(0)

(5 > 4) or (3 == 5) = TRUE(1)

not ((5 > 4) or (3 == 5)) = FALSE(0)

(True and True) and (True == False) = FALSE(0)

(not False) or (not True) = TRUE(1)

5. What are the six comparison operators?

< -- LESS THAN

> -- GREATER THAN

<= -- LESS THAN EQUAL TO

>= -- GREATER THAN EQUAL TO

== -- EQUAL TO

!= -- NOT 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.

- Assignment operator is ‘=’ where as equal to operators is ‘==’. Assignment operator is used to assign a certain value to a variable whereas we use equal to operators as a comparator operator which return true or false given the condition is true or false respectively.

A=10 ( means var A holds the value 10)

A==10 ( checks whether the value in A is equal to 10 or not)

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=10

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?

- Ctrl+c

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

- if break keyword is executed, then the whole program will exit the loop whereas in case of continue, only the present iteration of the loop will be terminated and the it will continue from the next iteration.

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

- range(10)- implies the function would be iterated for 10 times starting from the default initial value of 0.

range(0,10)- implies that the function would be iterated from the defined initial value of 0 to n-1, i.e- 10-1=9. This range would make the loop execute from 0 to 9, i.e-10 times.

range(0,10,1)- implies that the function should start the iteration from the given initial value of 0 upto 10-1=9, given the step size is 1,i.e- every iteration the value would jump only 1 step from the previous iteration value.

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.

for i in range(1,11):

print(i,end=" ")

i=1

while(i<=10):

print(i,end=" ")

i+=1

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

- spam.bacon()