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

True, False

It can be written in an expression as below eg.

If i==0: [when this is True, the if statement will be executed. It it returns False if statement will not be executed]

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

AND, OR, 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 ).

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **AND** | | |  | **OR** | | |  | **NOT** | |
| **A** | **B** | **Output** | **A** | **B** | **Output** | **A** | **Output** |
| FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | TRUE |
| FALSE | TRUE | FALSE | FALSE | TRUE | TRUE | TRUE | FALSE |
| TRUE | FALSE | FALSE | TRUE | FALSE | TRUE |  | |
| TRUE | TRUE | TRUE | TRUE | TRUE | TRUE |

4. What are the values of the following expressions?

(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?

== Equal to

> greater Than

< Less Than

>= Greater than or equal to

<= Less than or 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.

Equal to operator checks two variables or a variable & a value or string in an expression. While assignment operator just assigns a value or string to a variable.

Ex.: if I want to assign 10 to a, then I use assignment operator ‘=’ as a=10. Whereas if I want to compare a & b, then I will use equal to operator as if a==b:

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')

**block 1:**

if spam==10:

print(‘eggs’)

**block 2:**

if spam > 5:

print('bacon')

**Block 3:**

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=int(input("enter Spam Numer: "))

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?

Break statement immediately breaks out of the loop when executed whereas continue keeps on executing the loop

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

Ans: All the three tries executing the same way. It starts from 0 and ends with 9 with the jump 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.

**for loop**

for i in range(1,11):

print(i)

**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?