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

Two values of Boolean Data type are **True** & **False**.

**True, False** or **1,0**

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

(i) Not (ii) And (iii) Or

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 ).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Condition 1  (e.g. A) | Condition 2  (e.g. B) | NOT A | A And B | A or B |
| False | False | True | False | False |
| False | True | True | False | True |
| True | False | False | False | True |
| True | True | False | 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?

(i) Equality operator (==) (iv) Greater than (>)

(ii) Inequality operator (!=) (v) Less than or equal to (<=)

(iii) Less than (<) (vi) 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.

The ‘==’ operator checks whether the two expressions either side of the **equality operator** are equal or not. If so, it returns **true**. Otherwise it returns **false** while The ‘=’ is the assignment operator and is used to used to **assign** the result of the expression on the right side of the **operator** to the variable on the left side.

Example of equality condition: a=5; b=5; a==b will return true

Example of assignment: a= 5; this implies the variable a is assigned the value of 5

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 = int(input("Input a number" ))

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**’ allows one to interrupt and even abandon a loop even when it has not completely executed even if the expression being evaluated still remains *true,* while ‘**Continue**’ is the one that when evaluating if all the previous conditions are satisfied in loop omits the rest of the instructions inside the loop and perform another iteration i.e. **Continue** will take the loop back to the beginning of the loop after skipping the immediate iteration

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

In a for loop, range(10) and range(0,10) and range(0,10,1) are technically the same as they generally mean produce a list of data from 0 to 9 with steps 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

A=range(0,11)

for i in A:

print (i)

While Loop

i=1

j=11

while i<j:

print(i)

i=i+1

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

Don’t understand this question