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

A boolean data type is declared with the bool keyword and can only take the values true or false . When the value is returned, true = 1 and false = 0 .

The output ***<class ‘bool’>*** indicates the variable is a boolean data type.

Eg)a = True

type(a)

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

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 ).**

AND Operator

A B Q

0 0 0

0 1 0

1 0 0

1 1 1

OR Operator

A B Q

0 0 0

0 1 1

1 0 1

1 1 1

NOT Operator

A Q

0 1

1 0

**4. What are the values of the following expressions?**

**(5 > 4) and (3 == 5) 🡪** 0 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?**

less than, greater than, less than or equal to, greater than or equal to, equal to, and 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.**

The '=' is the assignment operator and is used to assign the result of the expression on the right side of the operator to the variable on the left side.

Eg) a=10

The '==' is the so-called equality comparison operator and is used to check whether the two expressions on both sides are equal or not.

Eg) if(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')**

🡪A block is a piece of Python program text that is executed as a unit.

🡪The following are blocks: a module, a function body, and a class definition. Each command typed interactively is a block.

spam = 0

if spam == 10:

print('eggs') #Block 1

if spam > 5:

print('bacon') #Block 2

else:

print('ham') #Block 3

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())

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 and continue are the loop control statements as they are capable of altering the functioning of the loop.

Break statement will end up in the innermost loop if it is used within a nested loop. While using the continue statement the loops do not terminate but continuously go on with the next iteration.

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

Python range() returns the sequence of numbers starting from a given start integer to a stop integer, which we can iterate using a for loop.

range(start,stop,step)

There is no change in the output from these 3 cases.

Range(10) 🡪 takes from 0 to 9

Range(0,10) 🡪 takes from 0 to 9

Range(0,10,1) 🡪 add up the variable by a value of 1 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.**

for i in range(1,11):

print(i)

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i=1

while(i<11):

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?**

This function can be called with spam.bacon().