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

**Ans:**

The two vales of Boolean data type are True and False.

Boolean data type can be written by True and False (1st letter capital rest all are small letters)

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

**Ans:**

The three different types of Boolean operators are and, or and not operators.

1. **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).**

**Ans:**

*x y x and y x or y not x not y*

False False False False True True

False True False True True False

True False False True False True

True True True True False False

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

**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

1. **What are the six comparison operators?**

**Ans:**

The six comparison operators are: equal to (==), (greater than (>), less than (<), greater then equal to (>=), less than equal to (<=), not equal to (!=).

1. **How do you tell the difference between the equal to and assignment operators? Describe a condition and when you would use one.**

**Ans:**

An equal to operator uses two continuous equal to symbols (==) and gives the output as True if LHS-RHS. Whereas, an assignment operator uses a single equal to symbol (=).

For example, a = (3==3) assigns the variable ‘a’ with a Boolean value True, and

a = 3 assigns a numeric value 3 to the variable ‘a’.

1. **Identify the three blocks in this code:**

**Ans:**

spam = 0

**Block-1**

if spam == 10:

print('eggs')

**Block-2**

if spam > 5:

print('bacon')

**Block-3**

else:

print('ham')

print('spam')

print('spam')

1. **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:**

spam=int(input("Enter the value of spam: "))

if spam == 1:

  print("Hello")

elif spam == 2:

  print("Howdy")

else:

  print("Greetings!")

1. **If your programme is stuck in an endless loop, what keys you’ll press?**

**Ans:**

CTRL + C

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

**Ans:**

Break Statement: It terminates the current working loop and passes the control to the next statement. If the break statement is inside the nested loop, it passes control to the outer loop.

for k in range(0,10):

  if k==4:

    break

  else:

    print(k)

Result🡪 0

1

2

3

Continue Statement:  It works just opposite to the break statement. So, instead of terminating certain conditions, it jumps off to the very next condition.

for k in range(5):

  if k==2:

    continue

  else:

    print(k)

Output🡪 0

1

3

4

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

**range(0, 10, 1)?**

**Ans:**

There is no difference in the output. In all the cases outputs are

0

1

2

3

4

5

6

7

8

9

Statement range(10) automatically takes the start as 0, end as (10-1=9) with an increment of ‘1’.

Statement range(0,10) takes the start as 0, end as (10-1=9) with an default increment of ‘1’

Statement range(0,10,1) indicates the lower limit of the range is ‘0’ upper limit is (10-1=9) with an increment of ‘1’.

1. **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:**

Using ‘for loop’:

for i in range(1,11,1):

  print(i)

Using ‘while loop’:

i=1

while i<=10:

  print(i)

  i+=1

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

**Ans:**

It can be called using the syntax🡪 spam.bacon()