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

**Ans.** Boolean data only has two values i.e. True and False. Just like english True return when a certain condition is correct and false is when the condition is incorrect. Also in python 0 means FALSE and 1 means TRUE.

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

**Ans.** Boolean data generally has three operators that are AND , OR , and NOT. AND operator is used when all the written conditon needs to be true, OR operator is used when either of the codition written is true, NOT operator is used when the condition written need to be not true.

**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 ).**

**Ans.** Following is the truth table for every combinaion possible:-

* AND Operator

True AND False – False

False AND False – False

False AND True – False

True AND True – True

* OR Operator

True OR False – True

False OR False – False

False OR True – True

True OR True – True

* NOT Operator

True NOT – False

False NOT – 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?**

**Ans.** The six comparison operators are:

== equal to

!= not equal to

< less than

<= less than equal to

> greater than

>= greater than 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.**

**Ans.** Equal to ‘==’ is a comparison operator which is used to compare two objects in a condition, and ‘=’ is an assignment operator which is used to assign a object to variable. The basic difference to identify the one is comparison operator has double equals to sign while assignment operator has single equals to sign.

To assign a value to a variable, assignment operator is used:

A = 23

B = 34

To compare whether the two variable has exactly same value, comparison operator is used:

A == B

(the output would be FALSE)

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

**spam = 0**

**if spam == 10:** #block 1

**print('eggs')**

**if spam > 5:** #block 2

**print('bacon')**

**else:** #block 3

**print('ham')**

**print('spam')**

**print('spam')**

**Ans.** The output of the above code is:

‘ham’

‘spam’

‘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.**

**Ans.**

spam = int(input("Please enter the 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?**

**Ans.** One can break out of an endless loop by pressing ctrl + C.

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

**Ans.** One can easily tell difference between break and continue, if a loop is breaking down or just stop at one point or value then a break condition is used there and if a loop is missing a certain value but keeps on running for further values then a continue condition is used there.

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

**Ans.** The basic inputs for range funtion is range(starting\_point,ending\_point(not included),step\_size) and the ending point input is a compolsury input even if you enter just one input it would be by default the ending point only, by default if one does not specify the other two inputs they are zero as starting point and one would be the step size. Now the above three functions are same only because in all of the range function the ending point is 10 only and other two inputs, if entered, are only the default values.

**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.**

**Ans.** For loop

for i in range(0,10):

  print(i+1)

While loop

limit = 1

while limit <= 10:

  print(limit)

  limit += 1

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

**Ans.** Following would be the syntax for calling the function:

spam.bacon()