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

**Solution**: There are two Boolean values: **True** and **False**

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

**Solution**: The three different types of 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 ).

**Solution:**

**AND:**

**A B AND**

**1 1 1**

**1 0 0**

**0 1 0**

**0 0 0**

**OR:**

**A B OR**

**1 1 1**

**1 0 1**

**0 1 1**

**0 0 0**

**NOT:**

**A NOT**

1. **1**
2. **0**

4. What are the values of the following expressions?

(5 > 4) and (3 == 5)

not (5 > 4)

(5 > 4) or (3 == 5)

not ((5 > 4) or (3 == 5))

(True and True) and (True == False)

(not False) or (not True)

**Solution**:

(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?

**Solution**:

1. Less than “<”.

2. Greater than “>”.

3. Less than or Equal to “<=”

4.Greater than or Equal to “>=”

5.Double Equal to “==”

6.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.

**Solution**: The “=” is an assignment operator is used to assign the value on the right to the variable on the left. The '==' operator checks whether the two given operands are equal or not. If so, it returns true. Otherwise it returns false.

Ex: a = 10 => here the value 10 is assigned to variable a.

True == False => it prints F**alse** because of true and false are not equal.

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')

**solution**:

1block is: 1st **if** statement

if spam == 10:

print('eggs')

2block is: 2nd **if** statement

if spam > 5:

print('bacon')

3block is: 3rd **else** statement

else:

print('ham')

print('spam')

print('spam')

output: it prints 2nd if statement block : ‘bacon’

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.

**Solution**:

Spam = int(input(“Enter the value:”))

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?

**Solution**:

You can stop an infinite loop with **CTRL + C**

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

**Solution**:

**Break**: The Break statement is applied at, if the condition satisfy then we need to exit from that loop.

Ex: i ==10

Break:

**Continue**: The Continue statement is applied at, if the condition is not satisfy with out exit from that loop it will continues.

Ex: a ==10

if a == 10:

print(a)

Continue: # it will print else statement also.

else:

print(a\*a)

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

**Solution**:

for i in range(10): it will print 0 to 9 ,by default it take initial as ‘0’ and by default it will increment by ‘1’.

for i in range(0,10): it will print 0 to 9 ,both are same, and by default it will increment by ‘1’.

for i in range(0,10,1): it will also print 0 to 9, here we are specified 0 t0 10 range and increment by ‘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.

**Solution**:

By using for loop:

for i in range(1,11):

print(i)

By using while loop:

i = 1

while i < 11:

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?

**Solution**

import spam

spam.bacon()