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

A) The 2 values are True and False.  Generally, it is used to represent the truth values of the expressions. Ex **:**  boolean user = True

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

A) The three different types of Boolean operators are : AND, OR , 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 ).

A) The **AND** Operator  returns True only if both the operands are True else it returns False. **Truth Table:**

|  |  |  |
| --- | --- | --- |
| Operator A | Operator B | **AND** result |
| True | True | True |
| True | False | False |
| False | True | False |
| False | False | False |

The **OR** Operator  returns False only if both the operands are False else it returns True. **Truth Table:**

|  |  |  |
| --- | --- | --- |
| Operator A | Operator B | **AND** result |
| True | True | True |
| True | False | True |
| False | True | True |
| False | False | False |

The **NOT** Operator  returns True if boolean value is False and vice-versa .

**Truth Table:**

|  |  |
| --- | --- |
| Operator A | **NOT Result** |
| True | False |
| False | 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?

A) The six comparison operators are as follows:

* Less than ( < )
* Less than or equal to ( <= )
* Greater than ( > )
* Greater than or equal to ( >= )
* Equal to ( == )
* 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.

A) The “=” is an assignment operator is used to assign the value on the right to the variable on the left where as the ‘==’ operator checks whether the two given operands are equal or not. If equal,it returns true else it returns false. Ex: a = 10 Here the value 10 is assigned to a. Ex: 6==6 This returns true

A condition is an expression used in a flow control statement that evaluates to a Boolean value.

7. Identify the three blocks in this code:

spam = 0

if spam == 10:

print('eggs') #Block1

if spam > 5:

print('bacon') #Block2

else:

print('ham') #Block3

print('spam')

print('spam')

A) The three blocks are everything inside the if statement and the lines print('bacon') and print('ham').  
print('eggs')  
if spam > 5:  
print('bacon')  
else:  
print('ham')  
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.

A) spam=6

if spam == 1:

print('Hello ') #Block1

elif spam == 2:

print('Howdy ') #Block2

else:

print('Greetings! ') #Block3

Output : Greetings!

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

A) We need to press **Ctrl + C** .

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

A) The break statement will move the execution outside and just after a loop. The continue statement will move the execution to the start of the loop.

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

A) They all do the same thing. The range(10) call ranges from 0 up to (but not including) 10, range(0,10) explicitly tells the loop to start at 0 , and range (0,10,1) explicitly tells the loop to increase the variable by 1 on each iteration.

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.

**ForLoop:**

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

**While Loop:**  
i = 1  
while i <= 10:  
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?

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