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

Ans- True and False. We can also write True as 1 and False as 0.

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

Ans- Three 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 ).

Ans- AND

|  |  |  |
| --- | --- | --- |
| P | Q | P AND Q |
| True | True | True |
| True | False | False |
| False | True | False |
| False | False | False |

OR

|  |  |  |
| --- | --- | --- |
| P | Q | P OR Q |
| True | True | True |
| True | False | True |
| False | True | True |
| False | False | False |

NOT

|  |  |
| --- | --- |
| P | NOT P |
| True | False |
| False | True |

4. What are the values of the following expressions?

(5 > 4) and (3 == 5) -> True and False= **False**

not (5 > 4) -> not True = **False**

(5 > 4) or (3 == 5) -> True or False = **True**

not ((5 > 4) or (3 == 5)) -> not(True or False)=not(True)=**False**

(True and True) and (True == False) -> True and False=**False**

(not False) or (not True) -> True or False = **True**

5. What are the six comparison operators?

Ans- Comparison operators are:

Greater than (>)

Less than (<)

Greater than or equal to (>=)

Less than or equal to (<=)

Equals (==)

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.

Ans- equal to is used to compare the two values and is represented by == sign.

For ex. 2==5 returns False

Assignment operator is represented by single equals ( = ) and it is used to assign a value to a variable. For ex. x=3. Here 3 is assigned to x.

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')

Ans- A new block begins every time you increase the indentation of a line, and ends just before the corresponding unindent.

spam = 0

if spam == 10:

print('eggs') #Block A

if spam > 5: #Block A

print('bacon') #Block B

else: #Block B ended

print('ham') #Block C

print('spam') #Block C ended

print('spam') #Block A ended

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.

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- Ctrl+C

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

Ans- Break stops the loop according to the given condition whereas continue skips the given condition and continue for further iterations.

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

Ans- range(10) means 0 to 9 #starting index is zero by default and stepsize is one by default.

range(0,10) also means 0 to 9 #starting index is given and stepsize is one by default.

range(0,10,1) also means 0 to 9 #starting index and stepsize both are specified.

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**

for i in range(1,11):

print(i)

**while**

i=1

while i<=10:

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?

Ans- From spam import bacon

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