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

**A:** The 2 values are true and false. In python they’re written as True and False.

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

**A:** 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:** Truth Table:

AND -

|  |  |  |
| --- | --- | --- |
| **X** | **Y** | **Output** |

|  |  |  |
| --- | --- | --- |
| True | True | True |
| True | False | False |
| False | True | False |
| False | False | False |

OR -

|  |  |  |
| --- | --- | --- |
| True | True | True |
| True | False | True |
| False | True | True |
| False | False | False |

Not -

|  |  |  |
| --- | --- | --- |
| 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:** ==, !=, <, >, <=, >=

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 equal to operator ‘==’ is a comparator and it compares the LHS with RHS. While ‘=’ assigns a value to a variable/ object to the LHS.

Eg. 5 == 6 compares 5 with 6 and returns False as 5 is not equal to 6.

Foo = ‘bar’ is assignment where the variable Foo is assigned with constant value of dtype string ‘bar’.

7. Identify the three blocks in this code:

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')

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?

**A:** CTRL + C

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

**A:** Break - It breaks the loop and runs the statement after the loop.

Continue - Completes the current iteration and moves to next iteration in the loop itself.

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

**A:** range (10): By default the start point is considered to be 0 and end point as 10. A range of 0 to 9 will be given.

range (0,10): A start point as 0 and end point as 10 is parametrized. A range of 0 to 9 will be given.

range (0,10,1): 0 is the start point, 10 is the end point with step of incrementing is 1. Hence a range of 0 to 9 will be given.

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.

**A:** Using a for loop-

for n in range(11):

print (n)

Using a while loop-

n = 10

while n == 0:

print (n)

n = n-1

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

**A:**

import spam

spam.bacon()