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

True & False.

# Returns True as x is True

x = True

print(bool(x))

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

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 ).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| condition 1 (e.g., X) | condition 2 (e.g., Y) | NOT X ( ~ X ) | X AND Y ( X && Y ) | X OR Y ( X || Y ) |
| false | false | true | false | false |
| false | true | true | false | true |
| true | false | false | false | true |
| true | true | false | true | true |

4. What are the values of the following expressions?

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

True

not (5 > 4)

False

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

False

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

False

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

False

(not False) or (not True)

False

5. What are the six comparison operators?

|  |  |  |
| --- | --- | --- |
| Operator | Name | Example |
| == | Equal | x == y |
| != | Not equal | x != y |
| > | Greater than | x > y |
| < | Less than | x < y |
| >= | Greater than or equal to | x >= y |
| <= | Less than or equal to | x <= y |

6. How do you tell the difference between the equal to and assignment operators?Describe a condition and when you would use one.

=(Assignment) : difference between the equal to and assignment operators

==(Equal to): It is used for comparing two values. It returns 1 if both the values are equal otherwise returns 0.

Eg. list1 = []

list2 = []

list3=list1

if (list1 == list2):

print("True")

else:

print("False")

7. Identify the three blocks in this code:

spam = 0 **:- spam(0 assign to ‘spam’ variable)**

if spam == 10: **:-spam is equal to 10**

print('eggs')

if spam > 5: **: spam(variable) is greater than 5 which is “True”**

print('bacon')

else:

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.

spam = int(input("Entered any 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?

Ctrl+C or we can use break in statement.

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

The main difference between break and continue is that break is used for immediate termination of loop. On the other hand, ‘continue' terminate the current iteration and resumes the control to the next iteration of the loop.

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

range(10) means max value is 10 and Min value is 0.

range(0, 10) means minimum value is 0 and Maximum value is 10.

range(0, 10, 1) means Minimum value is 0,Maximum Value is 10 & Start(Step) point is 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.

#Using For Loop

for i in range(1, 11):

print(i)

print("For Loop Ends here")

# Using While

j = 1

while(j<=10):

print(j)

j += 1

print("While Loop Ends here")

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

2 ways I can call function from defined/system module

1. import spam

bacon()

1. from spam import bacon()