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

Ans: Boolean data types- True, False. Numerically, True is equal to 1 and False is equal to 0.

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

Ans: 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 ).

Ans:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **X** | **Y** | **NOT X** | **X AND Y** | **X OR 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) -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?

Ans: less than ( < ), less than or equal to ( <= ), greater than ( > ), greater than or equal to ( >= ), equal to ( == ), and 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: The assignment operator (=) is used to assign the values to the variable. Equality Operator(==): The equality operator is used to compare the values of both the variables and the result is true or false.

Num=10 #asssigning value to the variable Num

If Num==10: #using equality operator

Print (“Have a nice day”)

Else:

Print(“Better luck next time”)

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')

A screenshot of a computer

Description automatically generated

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.

Ans:

spam=1

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:We need to press CTRL+C to stop a program if it has been stuck in an infinite loop

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

Ans: break- It eliminates the execution of the remaining iteration of the loop.

continue- it will terminate only the current iteration of the loop.

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

Ans: range(10) – if an action wants to perform a specific number of times we can give a range. Here it will run 10 times. (0,1,2,3,4,5,6,7,8,9)

range(0,10)- here it will start from 0 and ends at 10.

Range(0,10,1)- Here it will start from 0 and ends at 10 and the increment is 1.(0,1,2,3,4,5,6,7,8,9)

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:

## using for loop

For i in range(1,10):

print(i)

## using while loop

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: we can use spam.bacon()