**Assignment\_2**

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

**Answer:** Boolean data type represents one of the two values i.e. True or False.

a = True

b = False

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

**Answer:** Three Boolean operators are : Not, And , Or

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 ).

**Answer :**

NOT Operator Truth Table

|  |  |
| --- | --- |
| **A** | **not A** |
| TRUE | FALSE |
| FALSE | TRUE |

This table illustrates that NOT returns the opposite truth value of the argument.

AND Operator Truth Table

|  |  |  |
| --- | --- | --- |
| **A** | **B** | **A and B** |
| TRUE | TRUE | TRUE |
| FALSE | TRUE | FALSE |
| TRUE | FALSE | FALSE |
| FALSE | FALSE | FALSE |

The AND operator takes two arguments. It evaluates to False unless both inputs are True.

OR Operator Truth Table

|  |  |  |
| --- | --- | --- |
| **A** | **B** | **A or B** |
| TRUE | TRUE | TRUE |
| FALSE | TRUE | TRUE |
| TRUE | FALSE | TRUE |
| FALSE | FALSE | FALSE |

The value of the OR operator is True unless both of its inputs are False.

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?

**Answer:**

Six comparison operators, which 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.

**Answer:**

**“=”** is an assignment operator which is used to assign the value on the right to the variable on the left.

Ex: a = 5

**“==”** operator checks whether the two given operands are equal or not and is having two “=” symbols to denote equal to operator.

Ex: (x == y)

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')

**Answer :**

if spam == 10:

First Block

print('eggs')

if spam > 5:

Second Block

print('bacon')

else:

Third Block

print('ham')

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.

**Answer :**

spam = 0

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?

**Answer :** Ctrl + C keys

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

**Answer:** The main difference between both the statements is that when break keyword comes, it terminates the execution of the current loop and passes the control over the next loop or main body, whereas when continue keyword is encountered, it skips the current iteration and executes the very next iteration in the loop.

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

**Answer:**

**range(10) :** range function will start loop iteration with 0 as the starting number for the sequence and will stop at 9.

**range(0, 10) :** range function with start and stop value where it will start loop iteration with start sequence as 0 and stops at one less than the stop value i.e. at 9 (10 – 1).

**range(0, 10, 1) :** range function with start, stop and step value where it will start loop iteration with start sequence as 0 and stops at one less than the stop value i.e. at 9 (10 – 1) with iteration size of step value as 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.

**Answer:**

**For Loop**

for i in range(1,11):

    print(i)

**While Loop**

i = 1

while i < 11:

  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?

**Answer: spam.bacon()**