**ASSIGNMENT 2**

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

Two Boolean types are True and False which can be written as 1, 0.

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

The three different types of Boolean operator are:

* **AND:** This operator states true if both the operands are true, if one will be false it will state as False. For e.g., True and True will True, but False and True will be False.
* **OR:** This operator states true if one of the operand is true, it'll state false only when both operands are false. For e.g., True and False will True.
* **NOT:** This operator takes only one operand as it is urinary operator, it negates the answer. For e.g., True will be False and False will be True.

1. 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).

**Truth Table for AND**

True and True- True

True and False- False

False and True- False

False and False- False

|  |  |  |
| --- | --- | --- |
| A | B | Output |
| 0 | 0 | 0 |
| 0 | 1 | 0 |
| 1 | 0 | 0 |
| 1 | 1 | 1 |

**Truth Table for OR**

True and True- True

True and False- True

False and True- True

False and False- False

|  |  |  |
| --- | --- | --- |
| A | B | Output |
| 0 | 0 | 0 |
| 0 | 1 | 1 |
| 1 | 0 | 1 |
| 1 | 1 | 1 |

**Truth Table for NOT**

True- False

False- True

|  |  |
| --- | --- |
| A | Output |
| 0 | 1 |
| 1 | 0 |

1. 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)): True

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

(not False) or (not True): True

1. What are the six comparison operators?

The six comparison operators are: Greater Than (>), Less Than (<), Equal To (==), Not Equal To (!=), Greater Than Equal or To (>=), Less Than or equal To (<=).

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

The difference between equal to and assignment operator is assignment operator has single equal to sign (=) and it is used for assigning the value, equal to operator has double equal to sign (==) and it is used for equalizing the values.

1. Identify the three blocks in this code:

spam = 0

if spam == 10:

print('eggs') #Block1

if spam > 5: print('bacon') #Block2

else: print('ham') #Block3

print('spam')

print('spam')

1. 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("Enter a no: "))

if spam==1:

print("Hello")

if spam==2:

print("Howdy")

else:

print("Greetings!")

1. If your program is stuck in an endless loop, what keys you’ll press?

If program is stuck in endless loop we will press ctrl+c.

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

Break is used to end the loop while continue is used to continue the loop.

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

range(10) denotes it will take the value from 0 to 10 digits means if we just print i in range(10) it'll print 0-9.

In range(0, 10) the first digit denotes from where the counting will start (including) and the second digit denotes where it'll end (excluding). So, if we print i in range(0, 10) it'll print 0-9.

In range(0, 10, 1), the first and second digit are start and stop point and third digit is for the gap between the numbers, like here it's 1 so it'll print the number with gap of 1 means 0,1,2,3 but if it will 2 in place of 1 it'll take gap of 2 means 0,2,4,6.

1. 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(11): #Taking 11 as it'll exclude the end point.

print(i)

Using While loop:

i=0 while(i<=10):

print(i)

i+=1

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

The function can be called with spam.bacon().