**Python Basics Assignment-02**

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

Answer: **The two values of the Boolean data type are true and false. It should be written as:**

**True**

**False**

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

Answer: **The three types of Boolean operators are: 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).

Answer: **False=0, True=1**

1. **and operator: for two input variables**

|  |  |  |
| --- | --- | --- |
| **Input 1** | **Input 2** | **Output** |
| **0** | **0** | **0** |
| **0** | **1** | **0** |
| **1** | **0** | **0** |
| **1** | **1** | **1** |

1. **or operator: for two input variables**

|  |  |  |
| --- | --- | --- |
| **Input 1** | **Input 2** | **Output** |
| **0** | **0** | **0** |
| **0** | **1** | **1** |
| **1** | **0** | **1** |
| **1** | **1** | **1** |

1. **not operator: for one input variable**

|  |  |
| --- | --- |
| **Input** | **Output** |
| **0** | **1** |
| **1** | **0** |

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:

**< = less than**

**> = greater than**

**<= less than or equal to**

**>= 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:

**‘=’ assign a value to variable. E.g. a=10, here variable ‘a’ store a constant value 10. Here, the variable should be in the left side and the value should be in right side of the assignment operator always.**

**‘==’ is a comparison operator which check the operands given to the left side and right side of the operator are equal or not and give the output in the Boolean data type. E.g. if a=10, b=10, then a==b gives True.**

7. Identify the three blocks in this code:

**spam = 0**

|  |  |  |
| --- | --- | --- |
| **Block 1** | **if spam == 10:**  **print('eggs')** | **False** |
| **Block 2** | **if spam > 5:**  **print('bacon')** | **False** |
| **Block 3** | **else:**  **print('ham')**  **print('spam')**  **print('spam')** | **True** |

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 = int(input("Enter a 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?

Answer: **We can stop using stop button.**

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

Answer: **In a loop, when the condition satisfies then break is used to exit from that loop without executing that condition.**

**e.g.**

list\_1=[1, 2, 3, 4, 5, 6, 7, 8, 9, 10]

for i in list\_1:

  if i % 2 == 0:

    break

  print(i)

1 # condition satisfied at 2nd loop then exit from the loop

**In a loop, when the condition satisfies then continue will not execute that condition only and rest the loop run.**

**e.g.**

list\_1=[1, 2, 3, 4, 5, 6, 7, 8, 9, 10]

for i in list\_1:

  if i % 2 == 0:

    continue

  print(i)

1 # condition satisfied at 2nd, 4th, 6th, 8th, and 10th loop.

3 # so not executed that loops and rest condition executed.

5

7

9

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

Answer: **In the results there is no difference between range(10), range(0, 10) and range(0, 10, 1), only the difference is in the format.**

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:

**Using for loop:**

for i in range(10):

  print(i+1)

**Using while loop:**

i=1

while i<=10:

  print(i)

  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: **After importing spam, the said function can be called by spam.bacon().**

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