ASSIGNMENT NO 2

Nirbhay Ahir

[Nirbhay.ahir36@gmail.com](mailto:Nirbhay.ahir36@gmail.com)

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

ANS : Boolean data type contains two values viz True & False. We can write them by assigning “True” and “False” noting that the first letters of each must be capital.

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

ANS : The three different types of Boolean operators are AND , OR & NOT.

Q 3. Make a list of each Boolean operators truth tables (i.e. every possible combination of Boolean values for the operator and what it evaluate ).

ANS : There are mainly three different Boolean operators viz AND, OR and NOT. The truth tables for each are given below

|  |  |  |
| --- | --- | --- |
| IN  A | PUT  B | OUTPUT |
| 0 | 0 | 0 |
| 0 | 1 | 0 |
| 1 | 0 | 0 |
| 1 | 1 | 1 |

|  |  |  |
| --- | --- | --- |
| IN  A | PUT  B | OUTPUT |
| 0 | 0 | 0 |
| 0 | 1 | 1 |
| 1 | 0 | 1 |
| 1 | 1 | 1 |

AND OR NOT

|  |  |
| --- | --- |
| INPUT | OUTPUT |
| 0 | 1 |
| 1 | 1 |

Q4. 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

Q5. What are the six comparison operators?

ANS : The six comparison operators are as follows –

1. Less than ( < )
2. Less than or equal to ( <= )
3. Greater than ( > )
4. Greater than or equal to ( >= )
5. Equal to ( == )
6. Not equal to ( != )

Q 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 Equal to (==) operator has double “=” sign and is used to check whether two expressions on each side atre equal or not.

The Assignment Operator (=) has single”=” sign and is used to assign a value to a variable.

Example – let suppose we have the following code :

a = 10

b = 100

(a == b)

Here the output will be False as a =!b, but the use of both the operators can be differentiated here.

Q 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')

ANS : The program runs in three blocks which are

Block 1 - if spam == 10:

  print('eggs')

Block 2 - if spam >5:

   print('bacon')

Block 3 - else :

  print('ham')

  print('spam')

  print('spam')

Q 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 = input()

if spam == "1":

  print('Hello')

elif spam =="2":

  print('Howdy')

else :

  print('Greetings!')

Q 9.If your programme is stuck in an endless loop, what keys you’ll press?

ANS: If programme is stuck in an endless loop one can press Interrupt command or Restart command in the Kernel.

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

ANS : Break statement immediately terminates the statement containing it. If break is used in a loop , it will exit the loop once the control reaches the break statement.

Whereas the continue statement is used to stop the current iteration and move on to the next iteration. Loop does not terminate here but continues on with next iteration.

Here is an example showing the difference between both

INPUT

a ="string"

print("break statement")

for i in a:

  if i == "i":

    break

  print (i)

print("\ncontinue statement")

for i in a:

  if i =="i":

    continue

  print(i)

OUTPUT

break statement (here the loop gets terminatedonce condition is met)

s

t

r

continue statement (here the loop skips the current iteration and continues with further

s iterations once the condition is met)

t

r

n

g

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

ANS: The general form of range function is range(start, stop, step).

range(10) means range(stop) means that a range of 0-9 wil be executed as default start of range is from 0.

range(0,10) will give a range from 0-9 as 0 is start and 10 is the end of this input.

range(0,10,1) will also give the same range of 0-9 as start is 0, end is 10 and it will take jump of 1 which is default jump.

Q 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: Program using for loop

for i in range(1,11):

  print(i)

Program using while loop

n=10

i=1

while i<=n:

  print(i)

  i+=1

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

ANS: This function can be called with  **spam.bacon()**

s