

assignment 2

May 29, 2023

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

ANS: The two values of the boolean data type are True & False. Boolean type is one of the built-in data types provided by Python. It is used to represent the truth value of the expression. We write them by using capital T and F, while the rest in lower case.

For eg:

$1 == 1$ is True while $2 < 1$ is False.

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

ANS: The 3 different 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 evaluates to).

ANS: True and True is True.

True and False is False.

False and True is False.

False and False is False.

True or True is True.

True or False is True.

False or True is True.

False or False is False.

not True is False.

not False is True.

4. What are the values of the following expressions? $(5 > 4)$ and $(3 == 5)$

not $(5 > 4)$

$(5 > 4)$ or $(3 == 5)$

not $((5 > 4) \text{ or } (3 == 5))$

(True and True) and $(\text{True} == \text{False})$

(not False) or (not True)

ANS: False

False

True

False

False

True

```
[2]: (5 > 4) and (3 == 5)
```

[2]: False

```
[3]: not (5 > 4)
```

[3]: False

```
[4]: (5 > 4) or (3 == 5)
```

[4]: True

```
[5]: not ((5 > 4) or (3 == 5))
```

[5]: False

```
[6]: (True and True) and (True == False)
```

[6]: False

```
[7]: (not False) or (not True)
```

[7]: True

5. What are the six comparison operators?

ANS:Equal-to operator(==)

not equal-to operator(!=)

Greater than operator(>)

lesser than opeartor(<)

Greater than equal-to operator(> =)

lesser than equal-to operator(< =)

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

ANS:‘==’ is the equal to operator that compares two values and evaluates to a boolean, while ‘=’ is the assignment opeartor that stores a value in a variable.

Assigning value 10 to a using ‘=’ opeartor, a = 10

so the value of a is 10.

The '==' operator checks whether the two given operands are equal or not. If so, it returns true. Otherwise it returns false.

5==5

This will return true.

A condition is an expression used in a flow control statement that evaluates to a boolean value.

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')
```

ANS:The three blocks in this code are if statement and the line print('spam') print('spam')

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.

```
[12]: def myfun(spam):
        if spam == 1:
            print("Hello")
        elif spam == 2:
            print("Howdy")
        else:
            print("Greetings!")

myFun(1)
myFun(2)
myFun(3)
```

Hello

Howdy

Greetings!

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

ANS:Press CTRL-C to stop a program stuck in an infinite loop.

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

ANS:a)The break statement will move the execution outside and just after a loop. The continue statement will move the execution to the start of the loop.

b)whenever break statement executed then else block will not be executed whereas In continue ,all the time else block is executed.

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

ANS:They all do the same thing. The range(10) call ranges from 0 up to (but not including) 10, range(0, 10) explicitly tells the loop to start at 0, and range(0, 10, 1) explicitly tells the loop to increase the variable by 1 on each iteration.

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.

```
[1]: for i in range(1, 11):  
      print(i)
```

```
1  
2  
3  
4  
5  
6  
7  
8  
9  
10
```

```
[5]: i = 1  
      while i <= 10:  
          print(i)  
          i = i + 1
```

```
1  
2  
3  
4  
5  
6  
7  
8  
9  
10
```

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()`.

```
[ ]:
```