

Python Assignment 02

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

Answer:

Boolean values are True and False.

We can write it as follows:

a = True

b = False

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

Answer: Three types of Boolean operators are AND, OR and 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).

Truth Table for AND:

When value is 0 and 1

A	B	Output (A AND B)
0	0	0
0	1	0
1	0	0
1	1	1

-When value is True and False

A	B	Output (A AND B)
False	False	False
False	True	False
True	False	False
True	True	True

Truth Table for OR:

- When value is 0 and 1

A	B	Output (A OR B)
0	0	0
0	1	1
1	0	1
1	1	1

- When value is True and False

A	B	Output (A OR B)
False	False	False
False	True	True
True	False	True
True	True	True

Truth Table for NOT:

- When value is 0 and 1

A	Output ($\sim A$)
0	1
1	0

- When value is True or False

A	Output ($\sim A$)
False	True
True	False

4. What are the values of the following expressions?

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

not $(5 > 4)$

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

not $((5 > 4)$ or $(3 == 5))$

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

(not False) or (not True)

Answer:

(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: <, >, <=, >=, ==, !=

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 a comparison operator it is used to compare two values and = is a assignment operator, it assign a value to a variable and store the data.

e.g. x = 10, the value 10 is assigned to variable x

2 == 3, here we check whether both values are same or not, here output is False.

7. Identify the three blocks in this code:

Answer:

The three blocks are two if case and one else case

```
spam = 0
```

```
if spam == 10:
```

```
    print('eggs') //Block 01
```

```
if spam > 5:
```

```
    print('bacon') // Block 02
```

```
else:
```

```
print('ham') // Block 03
```

```
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.

Answer:

```
spam = int(input("Enter a number between 1 and 10: "))
```

```
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: To stop an endless loop we press CTRL+C.

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

Answer: The break is used to exit from the loop when specific condition is met whereas continue skips a particular iteration.

break example:

```
if i >= 5:
```

```
    print("Number greater than 5")
```

```
    break
```

continue example:

```
if i == 3:
```

```
    print(" equal to 3")
```

continue

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

Answer: In python range() is used to return a sequence of numbers.

Syntax: range(start, stop, step)

range(10): this is one argument range(stop) function

This will return all the numbers starting from 0 to the number excluding the number.

Output: 0,1,2,3,4,5,6,7,8,9

range(10): this is one argument range(stop) function

This will return all the numbers starting from 0 to the number in range (excluding the number).

Output: 0,1,2,3,4,5,6,7,8,9

range(0,10): this is two argument range(start, stop) function

This will return all the numbers starting from 0 given in range to the number (excluding the number).

Output: 0,1,2,3,4,5,6,7,8,9

range(0,10,1): this is three argument range(start, stop, step) function

This will return all the numbers starting from 0 to the number (excluding the number).

Output: : 0,1,2,3,4,5,6,7,8,9

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<=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:

We can call the function as `spam.bacon()`