Python Basic- Ass- 02

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

Answer:

Python's Boolean data type has two possible values: True and False. They are represented in Python as True and False, respectively.

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

Answer:

The three different types of Boolean operators in python 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 evaluates).

The truth values of a Boolean expression are shown in a table called the truth table of a Boolean operator. The results of every possible combination of inputs are displayed in a truth table. The output of the Boolean expression when those particular inputs are applied is represented by each row in the truth table as a set of input values.

"==" Truth Table

X	==	Y	Returns
True	==	True	True
True	==	False	False
False	==	True	False
Flase	==	False	True

"AND" Truth Table

X	and	Y	Returns
True	and	True	True
True	and	False	False
False	and	True	False
Flase	and	False	False

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"OR" Truth Table

X	or	Y	Returns
True	or	True	True
True	or	False	True
False	or	True	True
Flase	or	False	False

NOT Truth Table

not	x	Returns
not	True	False
not	False	True

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**

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5. What are the six comparison operators?

Answer:

Python comparison operators test two values for equality, inequality, greater than, less than, or a combination of these. Comparison operators return True or False. ==,!=, <, >, <=, and >= are the operators (greater than or equal to).

A. Greater than (>)
B. Less than (<)
C. Equal to (==)
D. Not equal to (!=)
E. Greater than or equal to (>=)
F. Less than or 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.

The equal to operator (==) is used to compare two values and determine if they are equal. It is used to evaluate a boolean expression and return either True or False. The assignment operator (=) is used to assign a value to a variable. It is used to assign a value to a variable name so that the value can be used later in the program. For example, you might use the equal to operator to compare two numbers and determine if they are equal:

num1 = 5

num2 = 5

if num1 == num2:

      print("The numbers are equal")

You would use the assignment operator to assign a value to a variable:

num1 = 5

In this example, the variable num1 is assigned the value 5.

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')

Answer:

i. The first block is the assignment of the variable "spam"

ii. The second block is the if-else (if-elif-else) statement:

```
if spam == 10:
        print('eggs')
if spam > 5: #here if should be changed to elif
        print('bacon')
else:
        print('ham')
```

iii. The third block is the two print statements
```
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())
if spam == 1:
  print('Hello')
elif spam == 2:
  print('Howdy')
else:
  print('Greetings!')
```

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9. What three functions can be used to get the integer, floating-point number, or string version of a value?

Answer:

In Python, I will press Ctrl + C to stop an endless loop.

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

Answer:

Break is used to exit a loop immediately, while continue is used to skip the current iteration of the loop and move on to the next one.

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

Range(10): This will generate a list of numbers from 0 to 9.

Range(0, 10): This will generate a list of numbers from 0 to 9.

Range(0, 10, 1): This will generate a list of numbers from 0 to 9 in increments of 1.

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.

#for Loop-
```
for num in range(1, 11):
print(num)
```

#while loop
```
num = 1
while num <= 10:
print(num)
num += 1
```

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

The syntax for calling a function inside a module is "module_name.function_name()". In this case, the module name is "spam" and the function name is "bacon", so the function would be called "spam.bacon()".

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