Programming in Python: Takeaways 🖻

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Syntax

• Displaying the output of a computer program:

```
print(1 + 2)
print(5 * 10)
```

• Ignoring certain lines of code by using code comments:

```
# print(1 + 2)
print(5 * 10)
# This program will only print 50
```

• Performing arithmetical operations:

```
1 + 2

4 - 5

30 * 1

20 / 3

4**3

(4 * 18)**2 / 10
```

• Storing values to variables:

```
twenty = 20
result = 43 + 2**5
currency = 'USD'
```

• Updating the value stored in a variable:

```
x = 30

x += 10 # this is the same as x = x + 10
```

• Rounding a number:

```
round(4.99) # the output will be 5
```

• Using quotation marks to create a string:

```
app_name = "Clash of Clans"
app_rating = '3.5'
```

• Concatenating two or more strings:

```
print('a' + 'b') # prints 'ab'
print('a' + 'b' + 'c') # prints 'abc'
```

• Converting between types of variables:

```
int('4')
str(4)
float('4.3')
str('4.3')
```

• Finding the type of a value:

```
type(4)
type('4')
```

Concepts

- When we give a computer a set of instructions, we say that we're **programming** it. To program a computer, we need to write the instructions in a special language, which we call a **programming language**.
- The instructions we send to the computer are collectively known as **code**. Each line of instruction is known as a **line of code**.
- The code we write serves as **input** to the computer. The result of executing the code is called **output**.
- We can store values in the computer memory. Each storage location in the computer's memory is called a **variable**.
- There are two syntax rules we need to be aware of when we're naming variables:
 - We must use only letters, numbers, or underscores.
 - We can't use apostrophes, hyphens, whitespace characters, etc.
 - Variable names can't start with a number.

- In computer programming, values are classified into different **types**, or **data types**. The type of a value offers the computer the required information about how to handle that value. Depending on the type, the computer will know how to store a value in memory, or what operations can and can't be performed on a value.
- In this mission, we learned about three data types: integers, floats, and strings.

Resources

- More on <u>Python Basics</u>.
- More on <u>numbers and strings in Python</u>.



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