

Chapter 1

Function

1.1 Preface

VS Code is a special type of editor that is called a compiler. At the top, you'll notice a text editor. At the bottom, you will see a terminal where you can execute commands.

In the terminal, you can execute `code hello.py` to start coding.

In the text editor above, you can type `print("hello, world")`. This is a famous canonical program that nearly all coders write during their learning process.

In the terminal window, you can execute commands. To run this program, you are going to need to move your cursor to the bottom of the screen, clicking in the terminal window. You can now type a second command in the terminal window. Next to dollar (\$) sign. Type `python hello.py` and press the enter key on your keyboard.

Recall that computers really only understand zeros and ones. Therefore, when you run `python hello.py`, python will interpret the text that you created in `hello.py` and translate it into the zeros and ones that the computer can understand

The result of running the `python hello.py` program is `hello, world`,

Congrats! You just created your first program

1.2 Function

Function are verbs or actions that the computer or computer language will already know how to perform.

In your `hello.py` program, the `print` function knows how to print to the terminal window.

The `print` function, takes arguments. In this case, `"hello, world"` are the arguments that the `print` function takes.

1.3 Bugs

Bugs are a natural part of coding. These are mistakes, problems for you to solve. Don't get discouraged! This is part of the process of becoming a great programmer.

Imagine in our `hello.py` program that accidentally typed `print("hello, world"` notice that we missed the final `)` required by the compiler. If I purposefully make this mistake, you'll see the compiler will output an error in the terminal window!

Often, the error messages will inform you of your mistakes and provide you clues on how to fix them. However, there will be many times when the compiler is not this kind.

“A programmer can code a flower and send it to his girl friend. But flower is filled with, you know, bugs.”

1.4 Improving Your First Python Program

We can personalize your first Python program.

In our text editor in `hello.py` we can add another function. `input` is a function that takes a prompt as an arguments. We can edit our code to say

```
input("What's your name? ")  
print("Hello, world")
```
