User Input and Output in Python

Introduction

Sometimes, you'll want Python to ask users for a certain input. This is where user inputs can help!

Objectives

You will be able to:

- Incorporate input/output functionality in code to allow for user interaction

User input in Python

To get user input in Python, you can use the `input()` function. You can store the result in a variable, and use it to your heart's content. Remember that the result you get from the user will be a string, even if they enter a number.

For example, run the following cell:

In [1]:
```
name = input("Give me your name: ")
print("Your name is " + name)
```

```
Give me your name: Billy
Your name is Billy
```

When you use the `input()` function, the program waits for the user to type something and press ENTER. Only after the user presses ENTER does the program continue.

Manipulating strings (a few ways)

What you get from the `input()` function is always a string. What can you do with it?

First, make the string into a number. Let's say you are 100% positive that the user entered a number. You can turn the string into an integer with the function `int()`. (Later we will see what to do when the user does NOT enter a number and you try to do this. For now, don't worry about that problem)

Here is what this looks like:

In [2]:
```
age = input("Enter your age: ")
age = int(age)
print ("You are", age , "years old" )
```

```
Enter your age: 43
You are 43 years old
```

Unlike using `+` for string concatenation as seen earlier, we simply use a `,` for joining strings with numbers. You can also convert an `int` to `str` and use concatenation normally:

In [3]:
```
print ("You are " + str(age) + " years old")
```

```
You are 43 years old
```

Example

Let's create a program that asks the user to enter their name, age, and the current year. Print out a message addressed to them that tells them the year that they will turn 100 years old.

In [4]:
```
name = input("What is your name: ")
age = int(input("How old are you: "))
current_year = int(input("What is the current year: "))
year = str((current_year - age)+100)
print(name + " will be 100 years old in the year " + year)
```

```
What is your name: Billy
How old are you: 43
what is the current year: 2019
Billy will be 100 years old in the year 2076
```

Summary

This lesson introduced you to character input/output and string manipulation. We also saw how we can take user input, do some basic processing and provide feedback to the user based on the input.