

## Python Activity 01 - Variables and Input

NAME:

1. In a new Code cell type the following:

```
print("Hello World")
```

**print()** is a **function** within the Python programming language. A function is like a small program. When you put data in between the parentheses of a function, the function will do something to that data.

What happened when you ran the cell?

2. In a new code cell create a variable named age and set it as equal to 20. Print your age variable:

```
age = 20  
print(age)
```

What was the result of printing out the age variable?

3. You can assign different types of data to your variables. In a new code cell make a variable named **age** and set it to **15**. This is a data type of **integer**. Make a variable named **price** and set it to **19.95**. This is a data type of **float** (short for floating point decimal). Make a variable named **first\_name** and set it to **your name** with double quotes around it. This is a data type called **string**. Strings can be any combination of letters, numbers or special characters. Make a variable named **is\_online** and set it to **False**. This is a **boolean** data type. It can only be True or False.

```
age = 15  
price = 19.95  
first_name = "Josh"  
is_online = False
```

Try printing each of the variables you created.

Try changing the "F" in False to lowercase. What was the result when you ran the cell?

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Why do you think that happened?

4. The **input()** function will take a prompt and ask a user for data. The **input()** function will always convert the data into a String data type.

```
name = input("What is your name? ")
print("Hello " + name)
```

What was the result?

What data type was "Hello"?

What type of data was assigned to the name variable?

5. In a new cell let's write some code to calculate someone's age. If the year is not 2023 anymore update that part to the current year:

```
birth_year = input("Enter your birth year: ")
age = 2023 - birth_year
print(age)
```

What was your result?

Why did you get this error? (hint: think about what data types were used in creating the age variable.)

Next let's keep using the same code cell. Try using the **int()** function on the `birth_year` variable like this:

```
age = 2023 - int(birth_year)
```

The **int()** function will take any data type that you give it and try to convert that data into an **integer** data type. The **float()** function will take any data type that you give it and try to convert that data into a **floating point decimal** data type. The **bool()** function will take any data type that you give it and try to convert that data into a **boolean** data type. The **str()** function will take any data type that you give it and try to convert that data into a **string** data type.

How did this fix your error from before?

### Activity Challenge - Create a Calculator Program:

1. In a new code cell write a short program that collects the input of two different numbers from the user and assigns those numbers to two variables (hint: use the `input()` function twice).
2. Add the results of those two variables together in a new variable (hint: remember the `input()` function collects string data. You may need to change the data type).
3. Then print out the result with a friendly message like "The sum is:" for the user. (hint: remember you can't add strings and integers together. You may need to convert something back to a string here.)
4. Once your program works, show it to me and I will sign off on it

Working Calculator Program	Teacher Initial:
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