# **Chapter 01, Python Programming basics lab**

## **Objective**

In this lab you will create a Python application. Please refer to 00-Getting Started With Python.docx if you are not sure how to get started.

You will as user input values using keyboard and display information.

You will also use casting to convert strings to integers and floats.

**Duration:** 30 minutes. Please note there are four parts in this lab.

## **Part 1 - Display Hello World!**

## **Objective**

In this lab you will create a Python application. Your code will display text to console. You will then create two variables and display them within a sentence.

1. In your directory PythonArea (or whatever you chose to call it) create a text file called **greet.py**. and open it in Notepad++ or your preferred text editor.
2. Type the following text in the file:   
     
   **print('Hello World!')**
3. Save the file. You can use **ctrl-s** as a shortcut.
4. In Command Prompt or Terminal run the code using  
     
   **python greet.py**
5. Observe the message  
     
   Hello World!  
     
   in the Command Prompt.

## **Part 2 - Display a message using variables**

1. Create two variables to hold someone's name and age.   
   In the **greet.py** file, just below the last print() statement, type:

**username='Bob'**

**age=32**

**print(username,'is',age,'years old')**

1. Save the file and run it.
2. Modify your code to use the '+' character to add strings

**username='Bob'**

**age=32**

**print(username+'is'+age+'years old')**

1. Save the file and run it.
2. Does the output look right or strings are stuck together. That's what + and strings does!

Modify the print statement by inserting three spaces in the strings like:  
  
**print(username,' is '+age+' years old')**

1. Save and run your code

**Please do not close this application. You'll add more code pages in part 3**

## **Part 3 – Get user input**

## **Objective**

In this lab you'll create an interactive version of the **greet** application.  
You will also input values using the keyboard.

### **Instructions**

1. Create a new text file in PythonArea called **greetings.py**
2. Write the following code to get the username and age by using the keyboard.  
    **username=input('Please enter your name')**

**age = input('Please enter your age')**

**print(username,'is',age,'years old')**

1. Save and run your code

# **Part 4**

## **Objective**

In this lab you'll practise casting variables.  
You will input text values using keyboard and cast (convert) these into numeric types.

You'll input the length and width of a rectangle and calculate the area and perimeter of the rectangle.

### **Step by step instructions**

1. Create a text file called **rectangle.py**
2. Input the length of the first side of a rectangle.   
   Use a suitable variable name such as ***length***.   
   You must cast (convert) the text you input to an integer type (int)

**Tip:** Please review the example code on the slides if you're not sure how to achieve this.

1. Input the length of the second side of the rectangle.

Use a suitable variable name such as ***width***.  
Again, cast the input text to an integer type (int)

1. Calculate and display the perimeter of the rectangle.
2. Calculate and output the area of the rectangle.
3. Save and run your code

**\*\* End**