



**Task: Beginner Programming With
Functions -
Defining Your Own Functions**

www.hyperiondev.com



Introduction

Welcome to The Beginner programming With Functions - Using Built in Functions Task!

This Task reintroduces functions and will focus on teaching you how to create your own functions. It will also show you how functions can be used to compute certain values using list elements and/or text file contents.

Connect with your mentor



CONNECT

Remember that with our courses - you're not alone! You can contact your mentor to get support on any aspect of your course.

The best way to get help is to login to www.hyperiondev.com/support to start a chat with your mentor. You can also schedule a call or get support via email.



Your mentor is happy to offer you support that is tailored to your individual career or education needs. Do not hesitate to ask a question or for additional support!



A note from the Hyperion Team...

Very few things just work out of the box. As developers we know this, and are ready for it. When you dive into Python for the first time, the number of things that do indeed just work is amazing. Why then a post about more packages to use?

These 5 packages will give you the ability to move beyond what you think is possible, and in a couple of lines of code, allow you to grab information from web pages, do complex calculations on it, and push your findings onto your own web app in a matter of minutes not weeks, and as an added bonus, you get to sleep at night knowing your code is doing what it should be doing.

The 5 Python Packages every South African developer should know about can be found [HERE](#)

-The Hyperion Team

How to Define Function

A function is defined as follows:

```
def addone(x):  
    y = x+1  
    return y
```

This function is called '**addone**', it takes as input '**the parameter x**'.

The code indented under 'def addone' is the logic of the function. It defines what happens when the function is called. Simply put, the function computes a new variable y, which is the value stored in variable x with 1 added to it. It then 'returns' the value y.

The def and return Keywords

Note the '**def**' keyword. Python knows you're defining a function when you put this in front of a word. It will then expect a function name, its input parameters, and then a colon, with the logic of the function indented underneath.

Note the **'return'** keyword. Python will expect this at the end of your function, but it doesn't always have to be there.

Calling a Function

In order to execute a function, you need to 'call' it. If you **'called'** the above function with the value of `x = 10`, it would look exactly like this:

```
num = 10
numPlusOne = addone(num)
# The result that the 'addone' function 'returns' is stored in the numPlusOne variable.

print "10 plus 1 is equal to: " + str(numPlusOne)+". "

# Or even:
print "10 plus 1 is equal to: " + str(addone(num))+". "
```

Think of that 'call to the function', i.e. `addone(num)` , as a 'placeholder' for some computation. The function will go off and run its code, and return its result in that place.

Function Parameters

In the function definition, you put the names of variables that you want to store the input values to between the parentheses after the function name. You can put more than one of these variables or parameters, simply separate them by commas. When you call a function, you place the value you would like to pass to the function in parentheses after the function name. This value is passed to the function and stored in the corresponding function parameter variable. When calling a function, be sure to place the values you are passing to the function in the same order as the corresponding function parameters in the function definition.

Instructions

Before you get started we strongly suggest you start using Notepad++ or IDLE to open all text files (.txt) and python files (.py). Do not use the normal Windows notepad as it will be much harder to read.

First read example.py, open it using Notepad++ (Right click the file and select 'Edit with Notepad++') or IDLE.

- example.py should help you understand some simple Python. Every task will have example code to help you get started. Make sure you read all of example.py and try your best to understand.
- You may run example.py to see the output. Feel free to write and run your own example code before doing the Task to become more comfortable with Python.
- You are not required to read the entirety of Additional Reading.pdf, it is purely for extra reference.

Compulsory Task 1

Follow these steps:

- Create a Python file called "myFunction.py" in this folder.
- Create your own function that prints all the days of the week
- Create your own function that takes in a sentence and replaces every second word with the word "Hello"

Compulsory Task 2

Follow these steps:

- Create a Python file called "holiday.py" in this folder.
- You will need to create four functions:
 - Hotel cost - This function will take the number of nights as an argument and return a total cost (You can choose the price per a night)
 - Plane cost - This function will take the city you are flying to as an argument and return a cost for the flight (Hint: use if/else if statements in the function to retrieve a price based on the chosen city)
 - Car rental - This function will take the number of days as an argument and return the total cost.
 - Holiday cost - This function will take three arguments, number of nights, city, and days. Using these three arguments, you can call all three of the above functions with respective arguments and finally return a total cost for your holiday.
- Print out the value of your Holiday function to see the result!
- Try using your app with different combinations to show it's compatibility with different options

Things to look out for:

1. Make sure that you have installed and setup all programs correctly. You have setup **Dropbox** correctly if you are reading this, but **Python or Notepad++** may not be installed correctly.
2. If you are not using Windows, please ask your mentor for alternative instructions.

Give your thoughts..



RATE

Hyperion strives to provide internationally-excellent course content that helps you achieve your learning outcomes. Think the content of this task, or this course as a whole, can be improved or think we've done a good job?

[Click here](#) to share your thoughts anonymously.