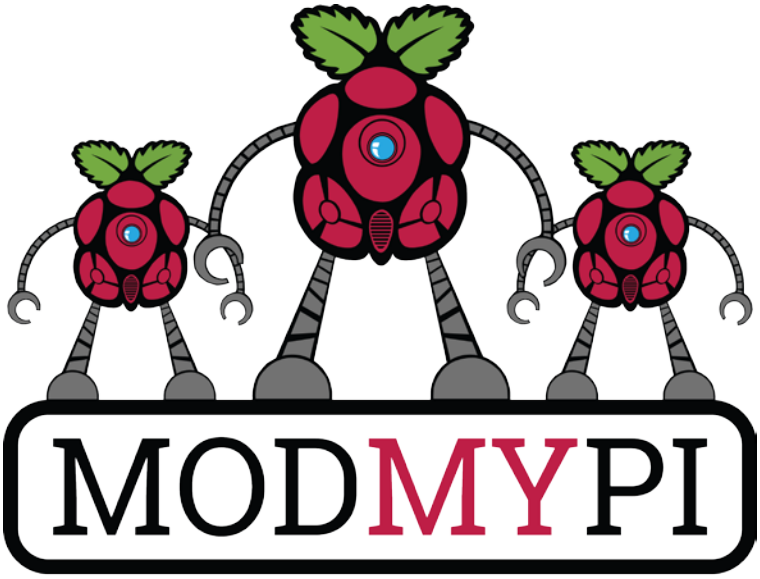



# YouTube

## Workshop Kit v2.0

## Tutorial 1/9: Hello Python

# Contents

## Things you will need

Raspberry Pi 3 Model B
Class 10 Micro SD Card
Keyboard + Mouse
Monitor + HDMI Cable
Power Supply (Recommended: 5V 2.5A)

*If you are connecting to your Raspberry Pi remotely using VNC or other means then Keyboard, mouse Monitor and HDMI cable are optional.*

## Prerequisites

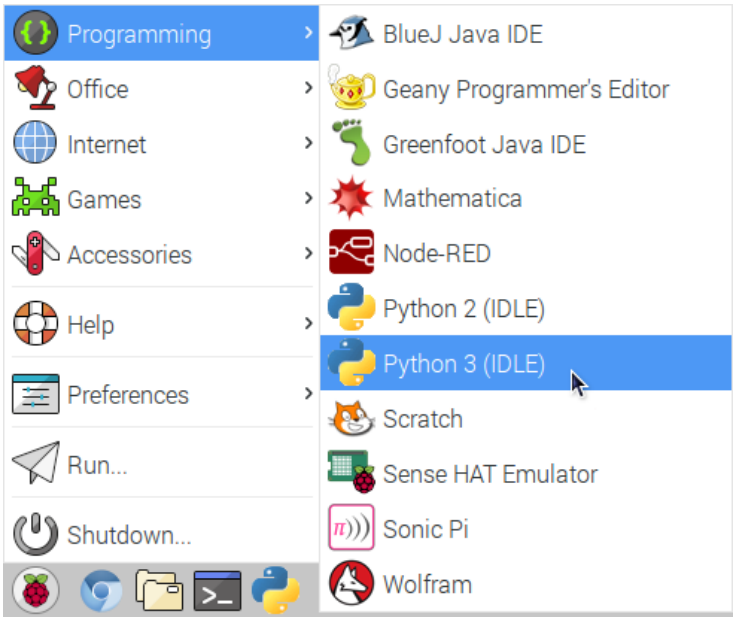
You will need to install the latest version of Raspbian on to your Micro SD Card. Initial setup will require a keyboard, mouse, HDMI cable and Monitor/TV.

## Introduction

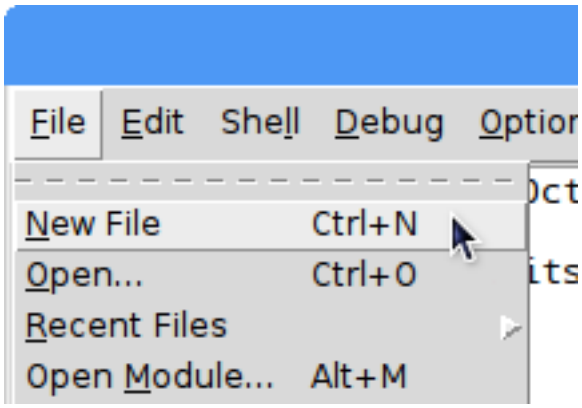
In this tutorial we writing some simple code printing text to the console and different ways to format the text

## Getting Started

To get started, first you need to open Python 3 (IDLE). To do this click on the Raspberry Pi icon on the task bar, highlight “Programming” then click on “Python 3 (IDLE)”



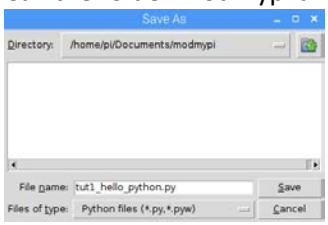

When IDLE has loaded, you will want to start working on a new file. You can do this by clicking on File and select “New File” or by pressing Ctrl+N



## Save the Program

Now that we have IDLE running, first save a new file. First open up the File Manager by clicking on this icon on the taskbar and open the Documents folder.

In here, create a new folder, right click select “Create New” and click Folder, or press Ctrl+Shift+N. Call the folder modmypi and click ok.




Go back to the IDLE window andclick on File and select “Save As”. Navigate to /home/pi/Documents/modmypi and enter tut1_hello_python.py for the filename then click Save.

# Writing the Code

The first thing you should type is a shebang line, docstring.

```
#!/usr/bin/python3

'''
Basic introdution to python on raspberry pi
'''
```

## Printing to Console - Basic

Printing text to the console is quite simple by using the print statement.

```
print('=== The Print Statement ===')
# Print Statement - This will print something to the console
# and is handy for debugging situations
print('This prints something to the console')
```

## Printing to Console - Using Variables

The code below stores text in 2 variables and prints the variables separately to the console.

```
print('\n=== Using Variables ===')
# Variables - Stores data that can be used how you wish
# Variables can be used to add data to and call data from them
VAR_1 = 'Hello'
VAR_2 = 'Python'

print(VAR_1)
print(VAR_2)
```

## Printing to Console – Using Math Operations

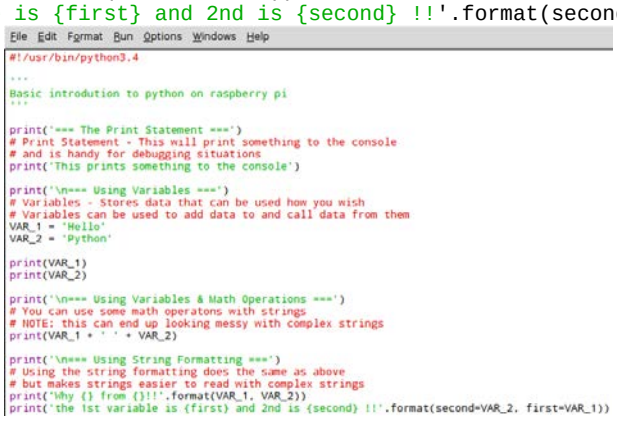
We can combine the 2 variables together to print them in the same line. In with complex strings, this can get messy and hard to read.

```
print('\n=== Using Variables & Math Operations ===')
# You can use some math operations with strings
# NOTE: this can end up looking messy with complex strings
print(VAR_1 + ' ' + VAR_2)
```

## Print to Console – String Formatting

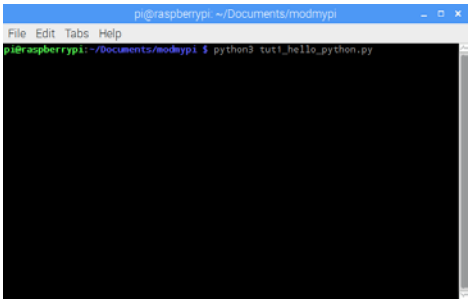
There is a way to make print text to the console and have it is a nice readable way. We do this by using the string.format statement.

```
print('\n=== Using String Formatting ===')
# Using the string formatting does the same as above
# but makes strings easier to read with complex strings
print('Why {} from {}!!'.format(VAR_1, VAR_2))
print('the 1st variable is {first} and 2nd is {second} !!'.format(second=VAR_2, first=VAR_1))
```



## Running the Program

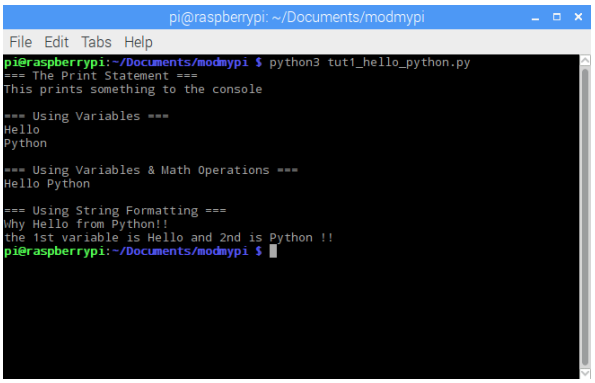
Save your work and it is time to run it so that you can make sure that it works as it should. Go back to the File Manager and open the modmypi folder you created. Next click on tools and select “Open Current Folder in Terminal” or press F4.




In the terminal, type python3 tut1_hello_python.py and press enter

## Results

When you run the program you will see the different results printed to the console. In the console you should see something like:




## Code on GitHub

If you would like to download a copy of the code, you can download it from along with all the other tutorials, code and wiring diagrams from [GitHub here]

## Thanks

Thank you for taking the time to follow this tutorial and hope that you have found this useful. Please feel free to follow the other tutorials that have been created for the ModMyPi YouTube Workshop Kit.