

## Ex - 04

### Making Executable Python Program

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#### **Problem**

How to make Python programs executable.

#### **Solution**

Normally, in order to run a Python program you have to **tell** the Python software to open the **file**. However **it** is possible to execute the **file** without having to call upon Python **first**. This allows you to call upon your own programs (that you created in Python) at the terminal by simply typing **it's** name.

#### **Discussion**

First you need to **tell** Linux to mark your Python **file** as executable, which means that the **file** is a program. For this example the target **file** to be made executable **will** be called helloworld.py. When you come to doing **it** yourself simply replace **this** with your own **file** name. We use the **chmod +x** command to make a **file** executable. In the terminal type the following:

```
chmod +x helloworld.py
```

You can now try running the program directly by typing:  
`./helloworld.py`

Even though you didn't call upon Python the program should **still** run the same as **if** you'd typed `python helloworld.py`. The program can only be run by calling **it** with **it's full** location `/home/pi/example.py` or from the current directory by using `./` as the location.

To make the **file** accessible in the same way as any other command in the terminal, **it** needs to be copied (using the command `cp`) to `/usr/local/bin` with the following command:

```
sudo cp helloworld.py /usr/local/bin/
```

With the **file** now located in `/usr/local/bin` **it** can be executed from any directory by simply typing **it's** name. Try changing to another directory and then run the program again by typing the following:  
`helloworld.py`

To make your custom-made programs seem more **like** native **utilities**, you can rename (using the command `mv`) them to remove the `.py` **file** extension. To change helloworld.py in this way type the following line at the terminal:

```
sudo mv /usr/local/bin/helloworld.py /usr/local/bin/helloworld
```

Now the program can be run by simply typing `example` at the terminal!