CamJam EduKit Worksheet One

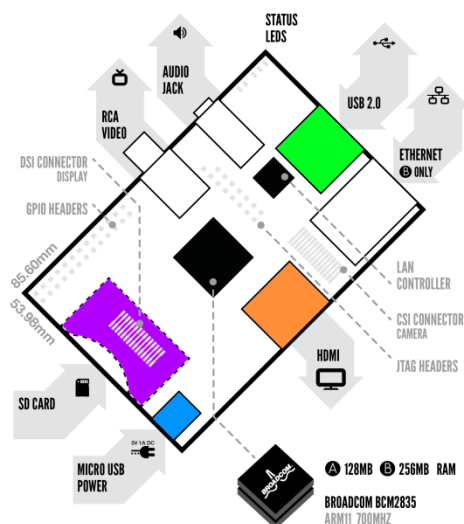|	
Project	Printing to the screen using Python
Description	Run your first python program to print "Hello World" to the screen. You will not be connecting any of the contents of the EduKit to the Raspberry Pi for this short exercise.

Equipment Required

□ Raspberry Pi & SD Card	□ Monitor & HDMI Cable	□ Keyboard & Mouse	□ Power supply

Setting up your Raspberry Pi

Find your Raspberry Pi.

- Plug in the SD card (or Micro SD on the A+/B+/Pi2).
- Plug in the HDMI cable into the Pi and the monitor.
- Plug in the keyboard into the USB ports.
- Plug in the mouse into the USB ports.
- Plug in the power cable.

When all wired up it should look like this. The A+, B+ and Pi2 will look slightly different.

Setting up your Raspberry Pi

After the Raspberry Pi has finished booting, you will see either the Graphical User Interface (as in the image below right) or the 'terminal' (as in the image on the right). If you see the 'terminal' screen on the right:

- Type in the user name "pi"
- Type in the password "raspberry"
- Type "`startx`" to load the graphical user interface

Double click on "LXTerminal". This will load the "terminal" window where you will enter your commands.

```
Using makefile-style concurrent boot in runlevel 2.
Network Interface Plugging Daemon...skip eth0...done.
Starting NFS common utilities: statd.
Starting enhanced syslogd: rsyslogd.
Starting system message bus: dbus.
Starting periodic command scheduler: cron.
Starting NTP server: ntpd.
Starting portmap daemon...Already running..
Starting Hardware abstraction layer: hald.
Starting internet superserver: xinetd.
My network IP address is 10.0.2.15

Debian GNU/Linux 6.0 raspberrypi tty1

raspberrypi login: pi
Password:
```

It is good to keep your Raspberry Pi's operating system up to date with the latest fixes and improvements. You can only do this if your Raspberry Pi is connected to the internet. It may take some time (perhaps up to an hour), so you should only do this when you have time. Type in each of the three commands on the right, one after the other, leaving each command to complete before starting the next.

```
sudo apt-get update
sudo apt-get upgrade
```

Code

You are now going to create our first small piece of Python code that will simply print "Hello World" to the screen.

First, you are going to create a directory where the code for the EduKit worksheets will be stored. Type in the follow commands, pressing the 'return' key at the end of each line:

`cd ~`	Changes to your home directory.
`mkdir EduKit`	Makes a new directory called 'EduKit'.
`cd EduKit`	Changes to the 'EduKit' directory.
`nano 1-helloworld.py`	Opens the 'nano' editor with the name '1-helloworld.py'

You will now be in the text editor called 'nano' where you will type in your code.

Type in the following code exactly as seen.

`#Print Hello World!`	A comment; everything on the same line after a '#' is a comment and will be ignored by Python.
`print "Hello World!"`	Print "Hello World!" to the screen.

To save the code in the file, type "Ctrl + x" then "y" then "enter".

- "Ctrl + x" tells nano that you want to exit. It will ask you whether you want to save the file, to which you answer 'y' for 'yes'.

- It will then prompt for the name of the file, which you set when you opened the file. Just press the "enter" key to take the default.

Running the Code

To run this code type:

```
python 1-helloworld.py
```

You will see it print "Hello World!" to the screen.