



Week 1 Programme



By:

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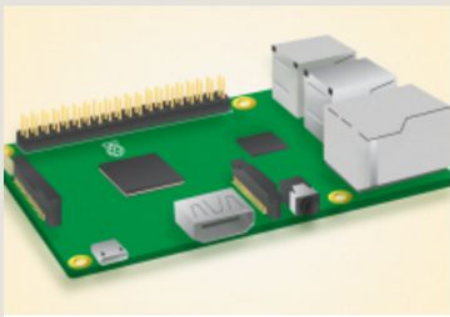
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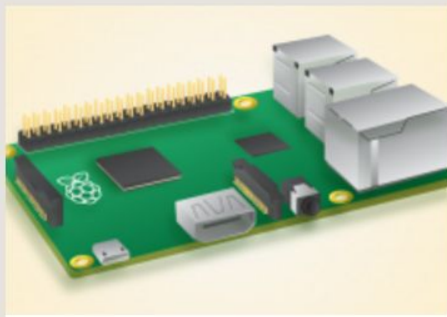
Basic RPi

- + Basic RPi electronics:
 - + On board connectors, GPIO (more details in week 2), voltages, safe use of RPi, and different specs for different RPi models.
- + Environment:
 - + Other supported languages
 - + Linux OS

RASPBERRY PI PRODUCTS...



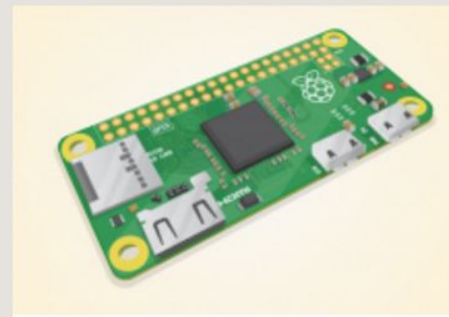
RASPBERRY PI 3 MODEL B



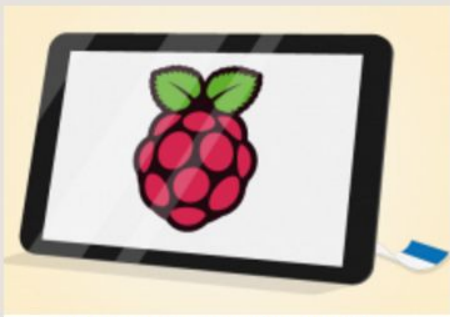
RASPBERRY PI 2 MODEL B



RASPBERRY PI 1 MODEL A+



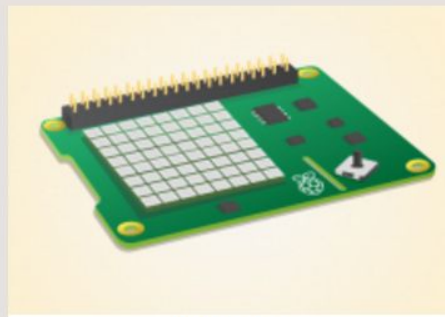
RASPBERRY PI ZERO



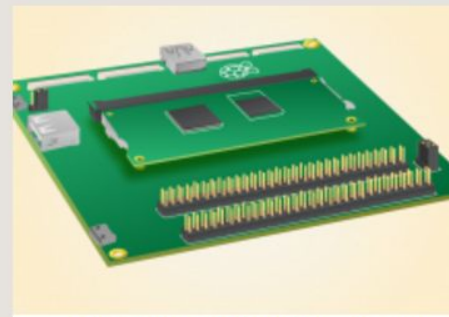
RASPBERRY PI TOUCH DISPLAY



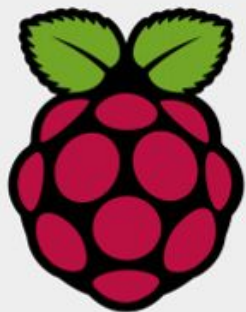
RASPBERRY PI CASE



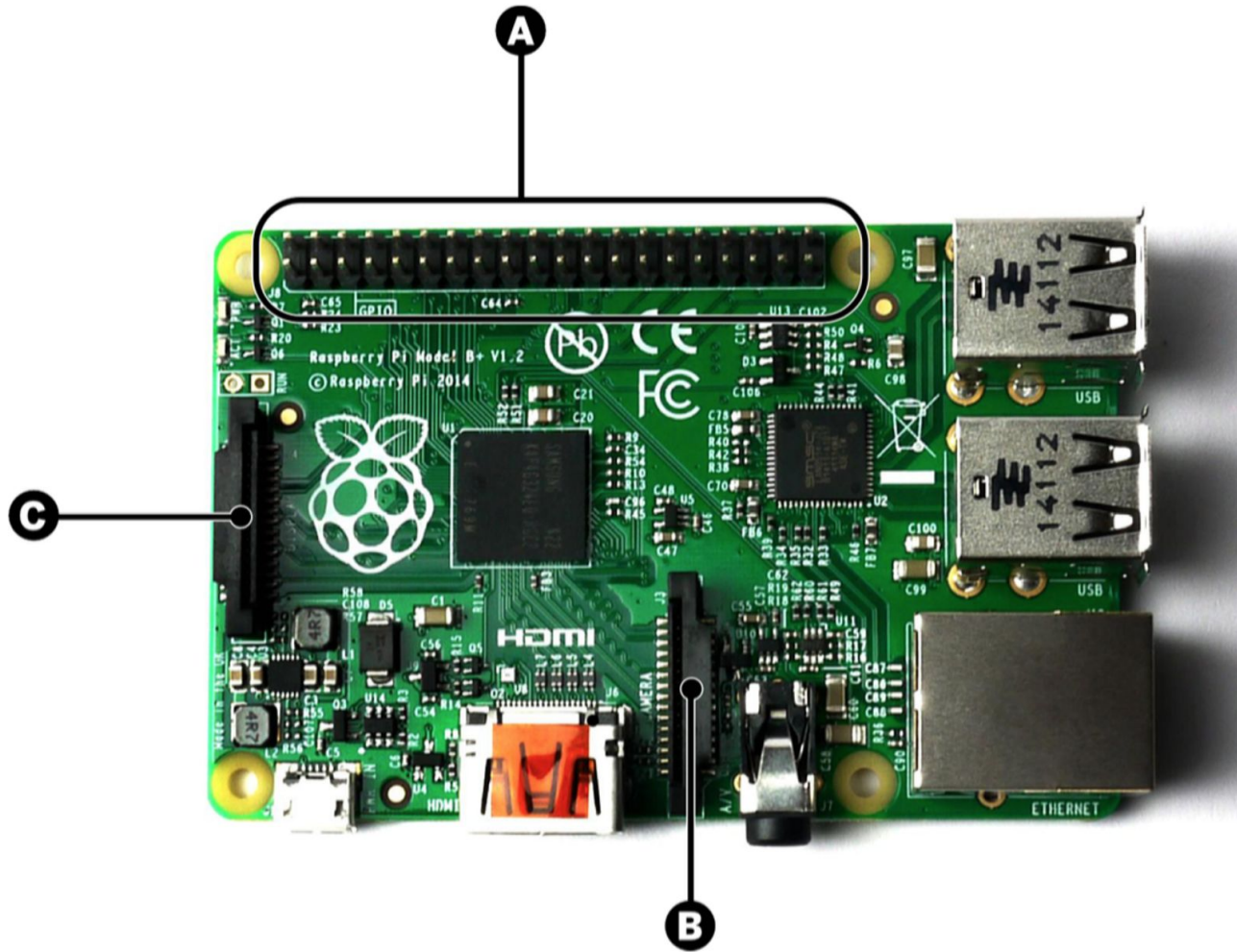
SENSE HAT



COMPUTE MODULE DEVELOPMENT
KIT



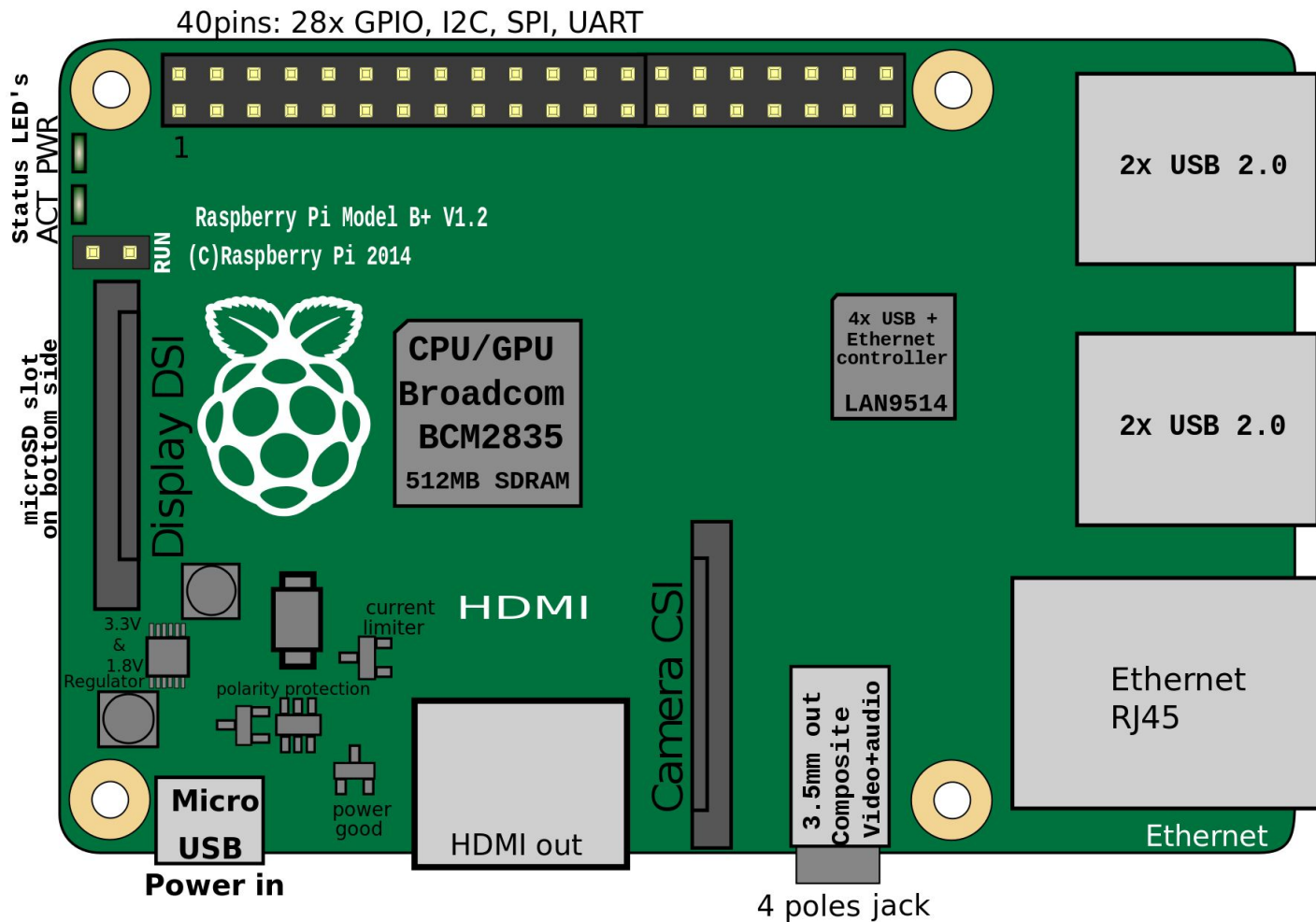
	Raspberry Pi 3 Model B	Raspberry Pi Zero	Raspberry Pi 2 Model B	Raspberry Pi Model B+
Introduction Date	2/29/2016	11/25/2015	2/2/2015	7/14/2014
SoC	BCM2837	BCM2835	BCM2836	BCM2835
CPU	Quad Cortex A53 @ 1.2GHz	ARM11 @ 1GHz	Quad Cortex A7 @ 900MHz	ARM11 @ 700MHz
Instruction set	ARMv8-A	ARMv6	ARMv7-A	ARMv6
GPU	400MHz VideoCore IV	250MHz VideoCore IV	250MHz VideoCore IV	250MHz VideoCore IV
RAM	1GB SDRAM	512 MB SDRAM	1GB SDRAM	512MB SDRAM
Storage	micro-SD	micro-SD	micro-SD	micro-SD
Ethernet	10/100	none	10/100	10/100
Wireless	802.11n / Bluetooth 4.0	none	none	none
Video Output	HDMI / Composite	HDMI / Composite	HDMI / Composite	HDMI / Composite
Audio Output	HDMI / Headphone	HDMI	HDMI / Headphone	HDMI / Headphone
GPIO	40	40	40	40
Price	\$35	\$5	\$35	\$35



A: General Purpose I/O

B: Camera Serial Interface

C: Display Serial Interface



Note: This
is RPi 2 B+.

Important

- + Always make sure you supply only 5 V to the RPi.
- + Unlike Arduino, RPi does not have internal power protection system (yet), be careful when making GPIO connections.
- + Please DO NOT connect over 3.3V or less than + 0V as input.
- + Never demand that any output pin source or sink more than 16 mA
- + Pins can supply only maximum 50 mA.

2. Setting up Raspberry Pi

- + You have to access to the guide in your laptops:

https://github.com/Starignus/PythonPractise/blob/master/Week1/RPIsetup/RPI_setup.md

3. WiFi Setup (ETA 15 mins):

- + Step by step guide
 - + Setting wpa_supplicant conf to access Imperial-WPA
 - + Encrypt password

4. First step toward Internet of Things (IoT) - Weaved Setup (ETA 10 mins):

- + Setup and configure Weaved account on RPi
- + Connect to registered Pi remotely

5. Python in Pi (ETA 20 mins):

- + Running Python in RPi
 - + Different environments: Terminal or in a text editor (e.g. X terminal, Scratch, nano, Vim, etc)
 - + Linux text editors: nano, vim, emacs
 - + Run python
 - + Directly in the interpreter, command line
 - + Run python script