

**ZERO TO BLINKY: UP
AND RUNNING WITH
RASPBERRY PI AND
ARDUINO**

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VERMIN

"The Better Mousetrap"

"The IoT Mousetrap"

PI VS ARDUINO

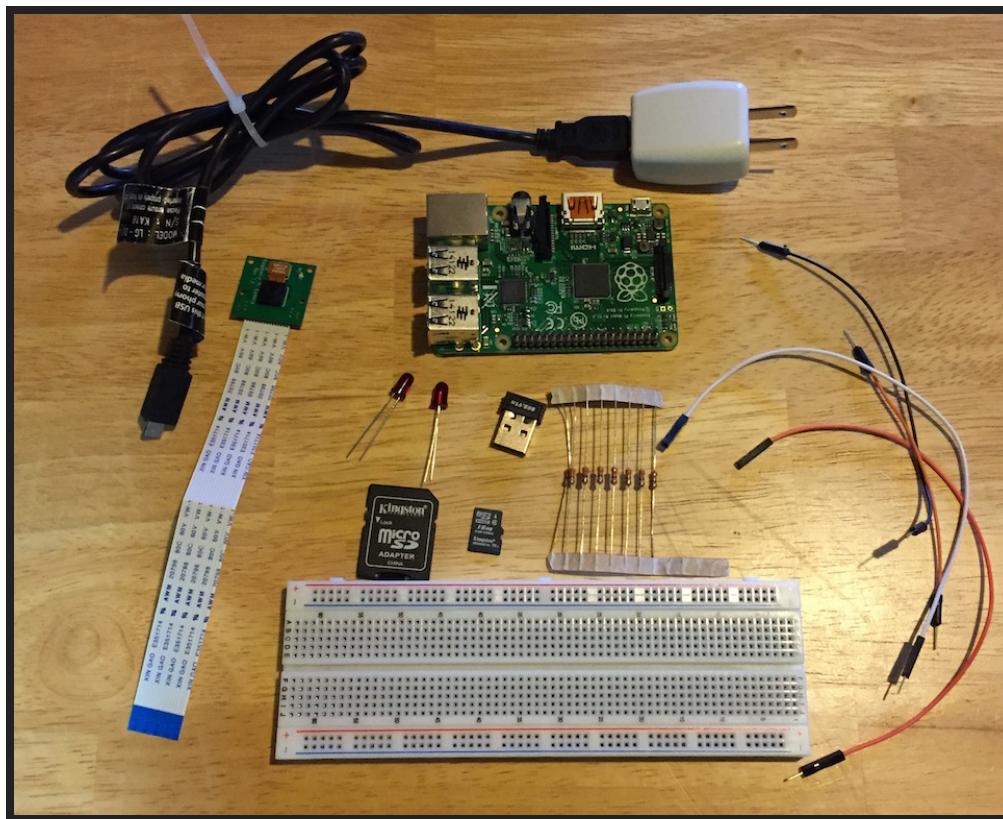
Pi: A small personal computer

Arduino: An electronics prototyping platform

PI SETUP - OVERVIEW

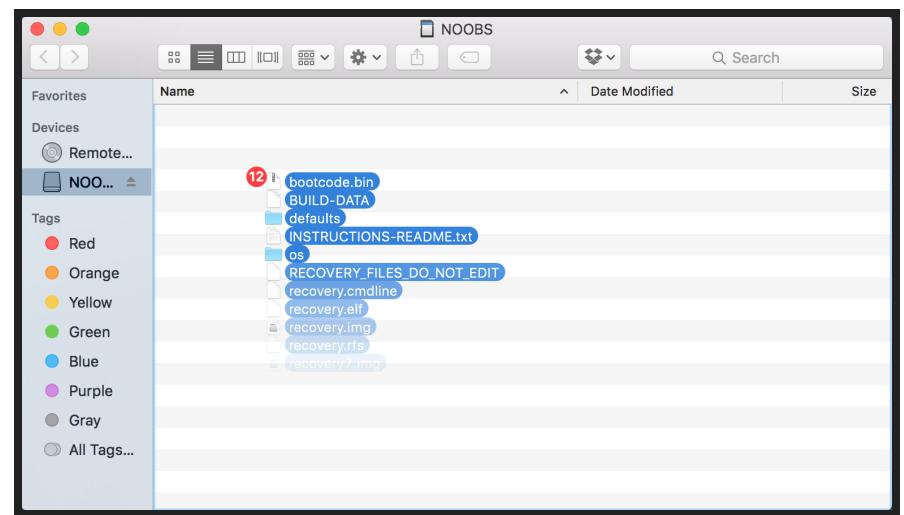
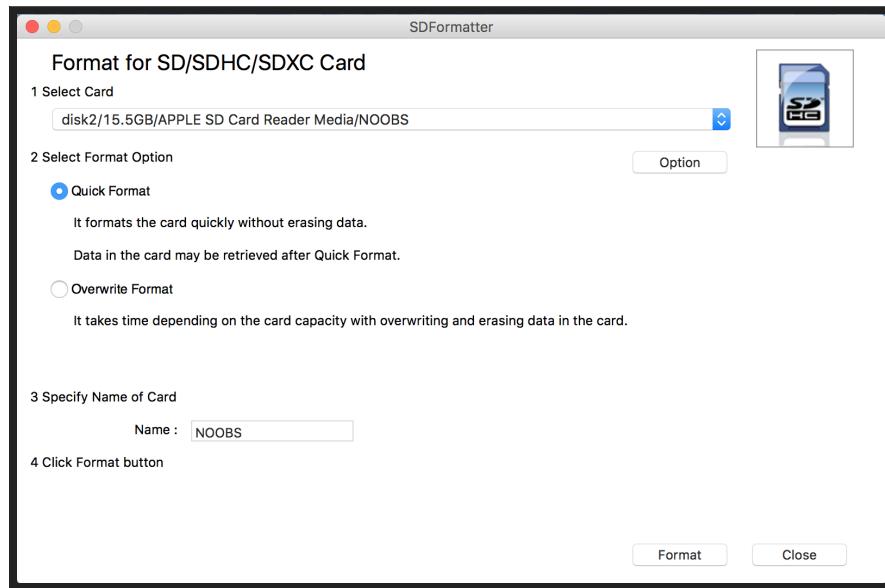
1. Gather Pi, peripherals and components
2. Install and configure the OS,
3. Get the Pi on the local network,
4. Configure the Pi for use over SSH
5. Install Node.js and required modules
6. Test the GPIO

PI SETUP - ACQUIRE PARTS



PI SETUP - FORMAT CARD AND COPY NOOBS

SD Formatter: Special formatter for SD card
NOOBS: Easy OS installation



PI SETUP - SH: CAN'T ACCESS TTY

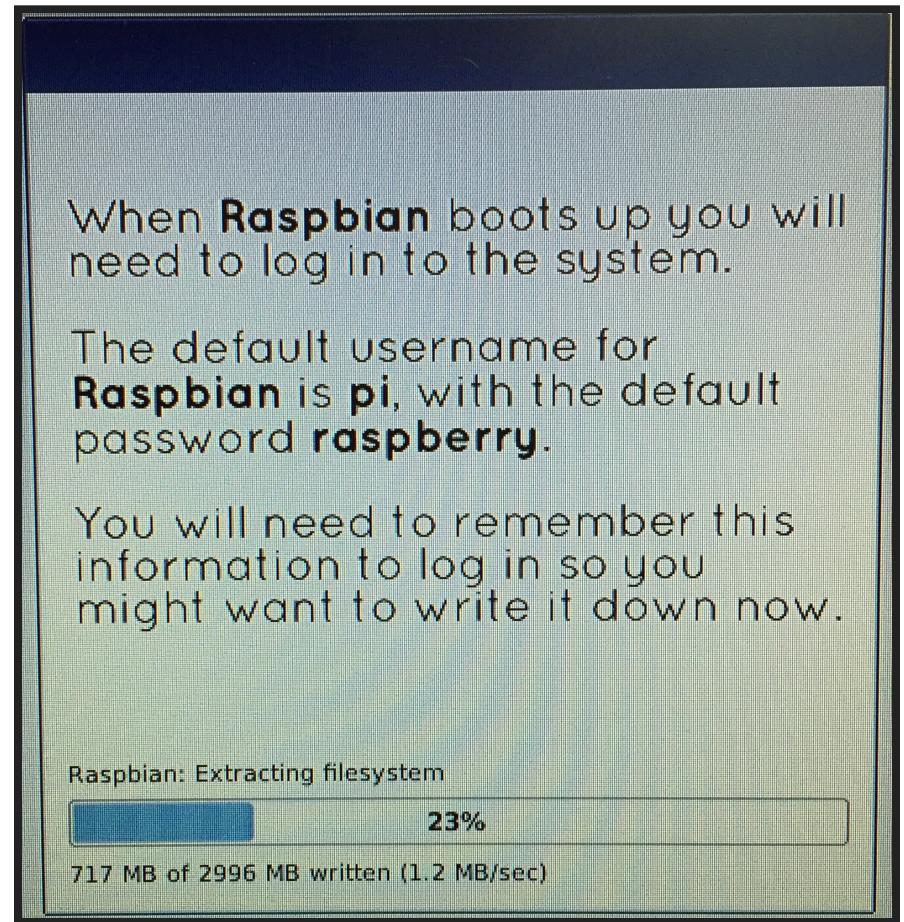
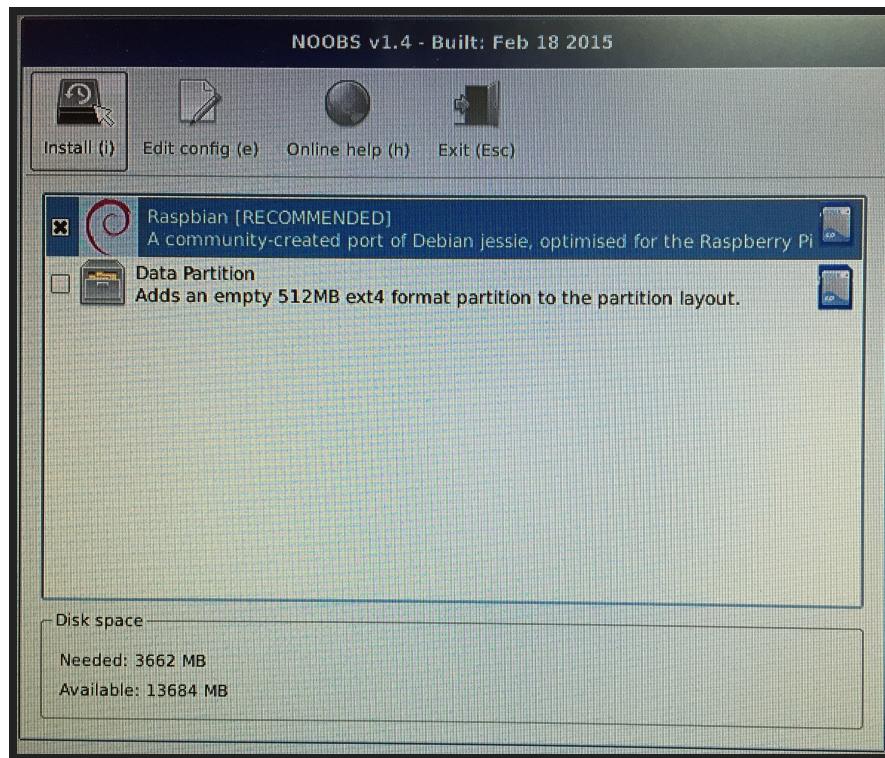
At startup:

```
sh: can't acces tty
```

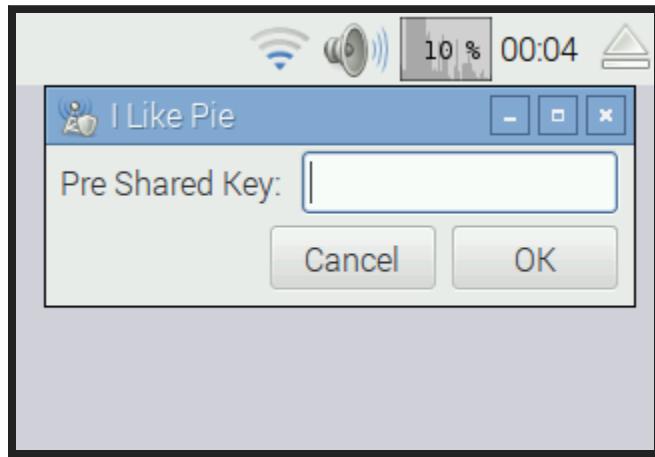
Add `disablesafemode` to `/recovery.cmdline`:

```
runinstaller quiet vt.cur_default=1 elevator=deadline disablesafemode
```

PI SETUP - INSTALL OS



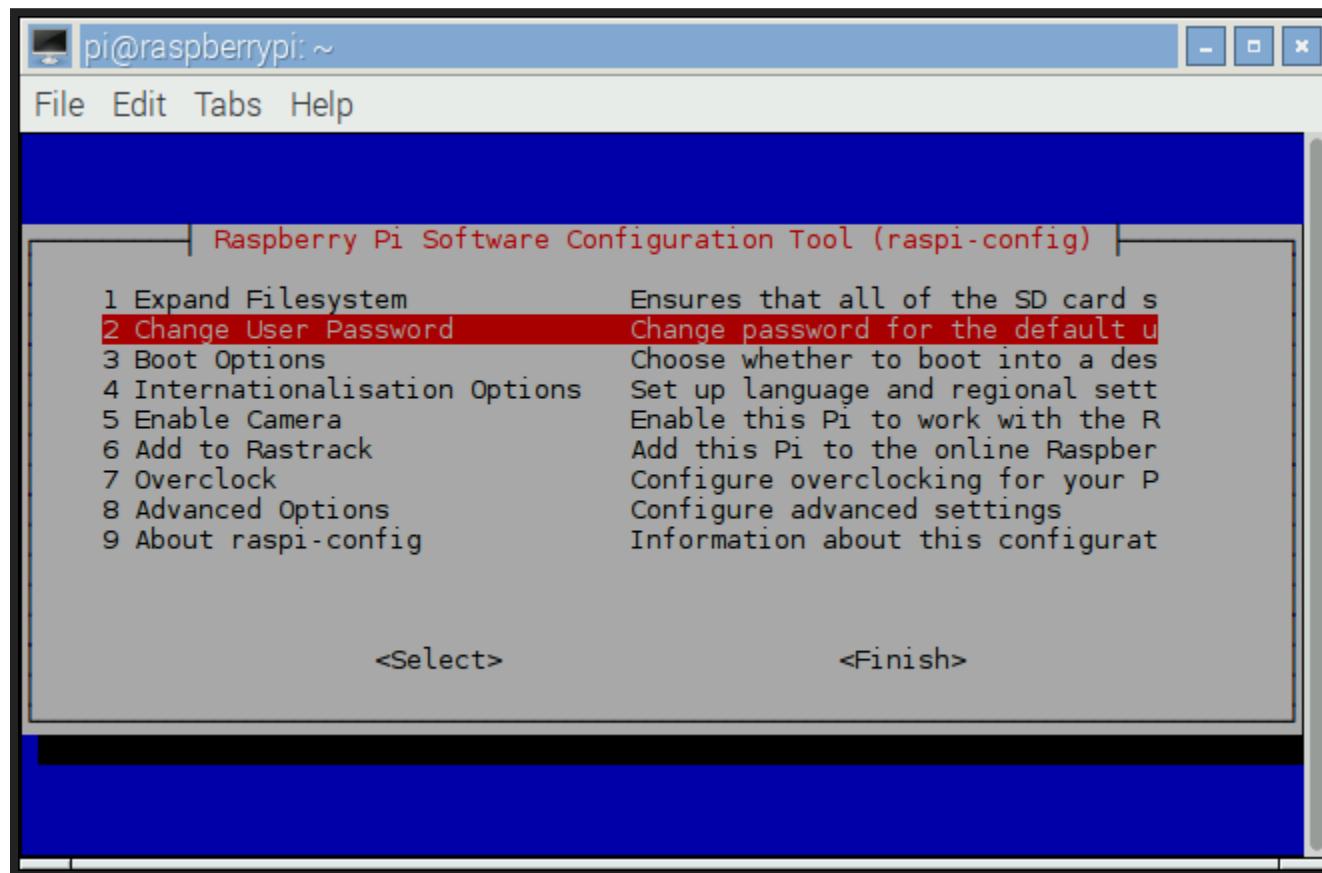
PI SETUP - NETWORK



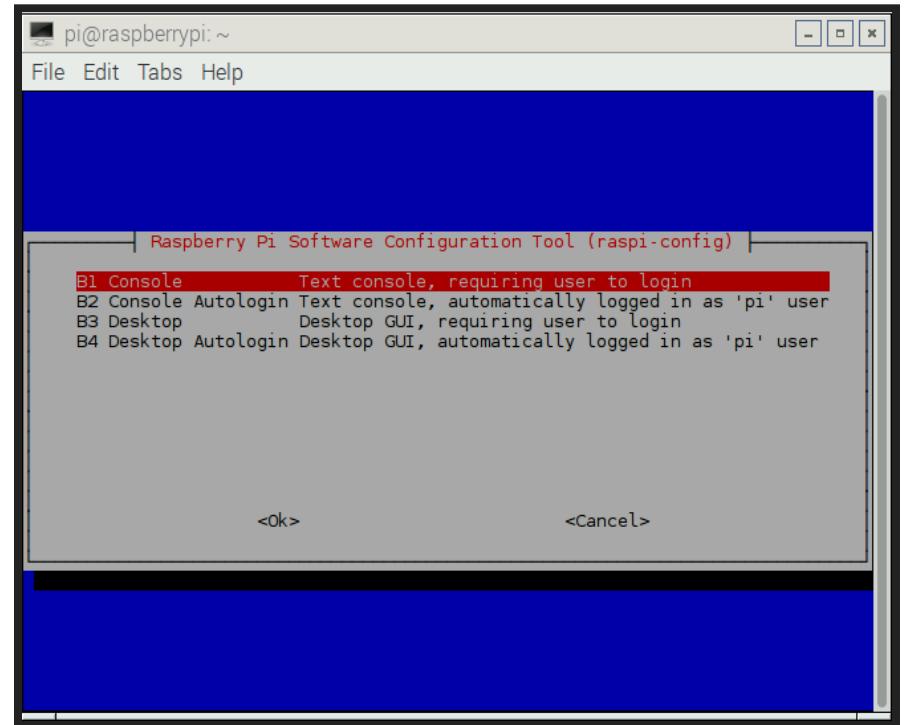
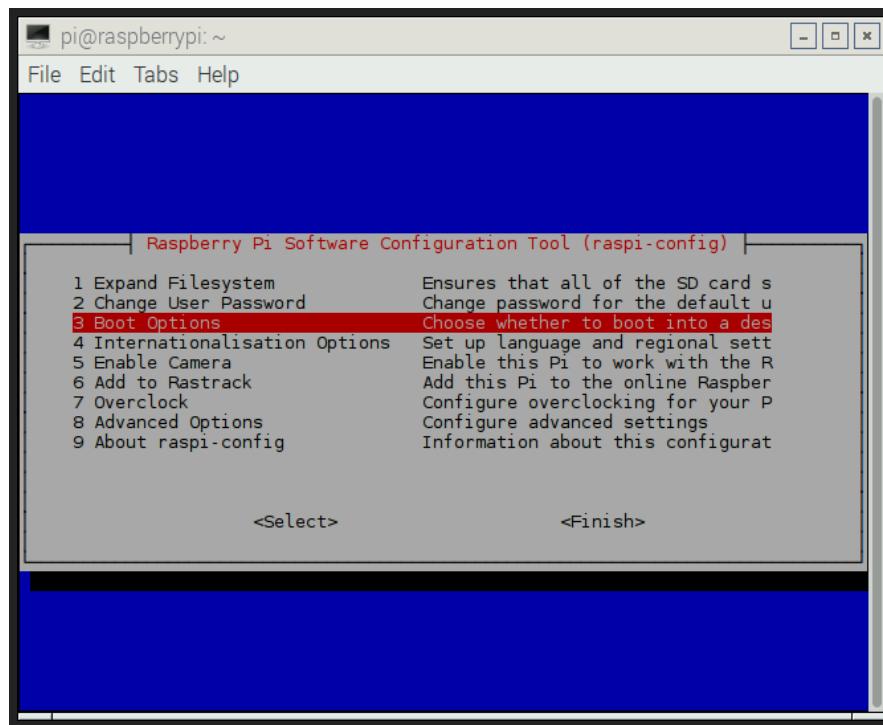
PI SETUP - RASPI-CONFIG

```
sudo raspi-config
```

PI SETUP - RASPI-CONFIG - CHANGE PASSWORD



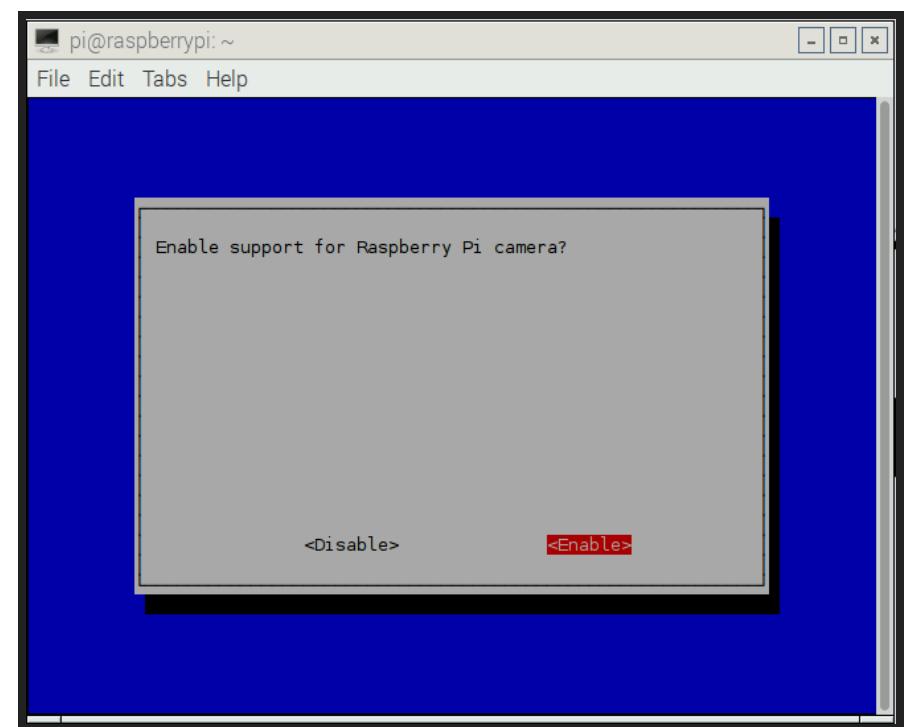
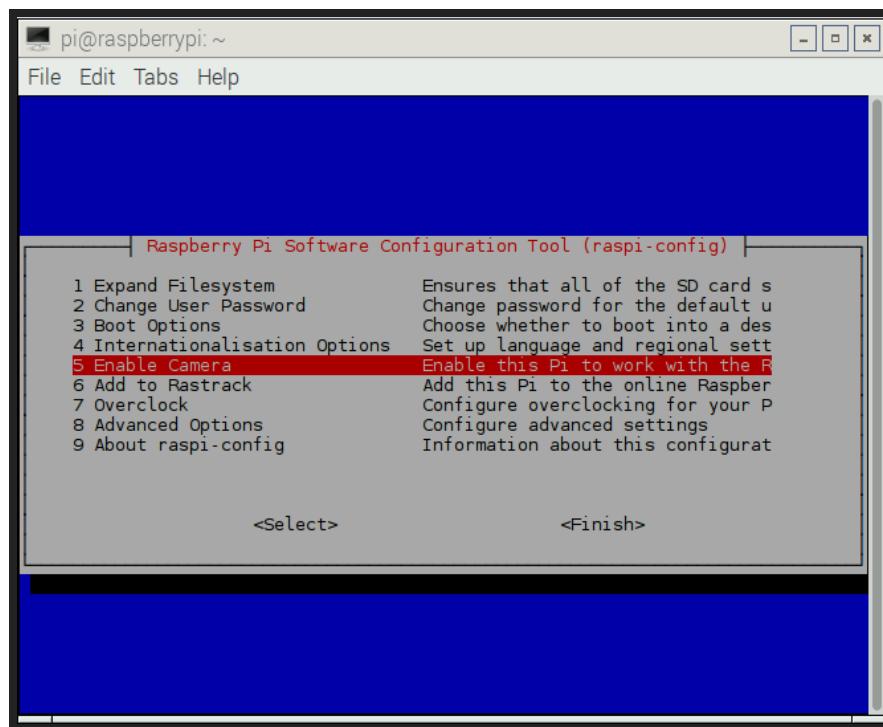
PI SETUP - RASPI-CONFIG - BOOT OPTIONS



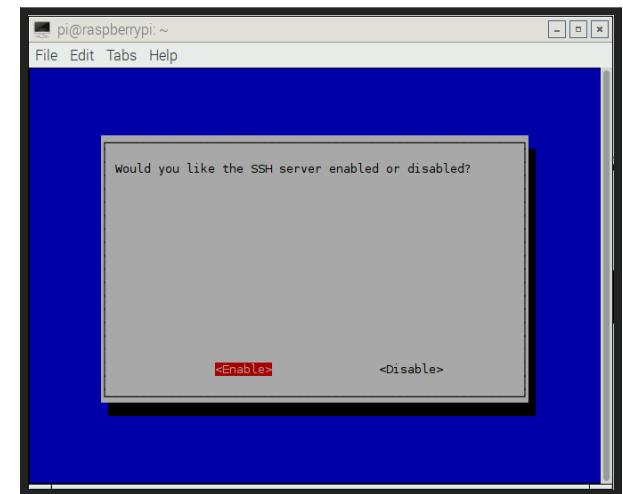
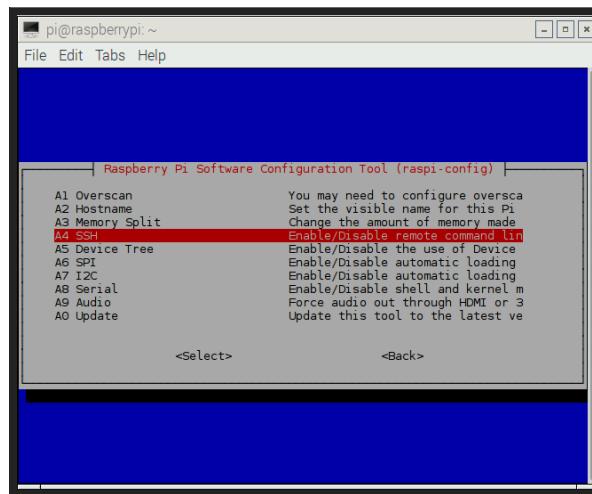
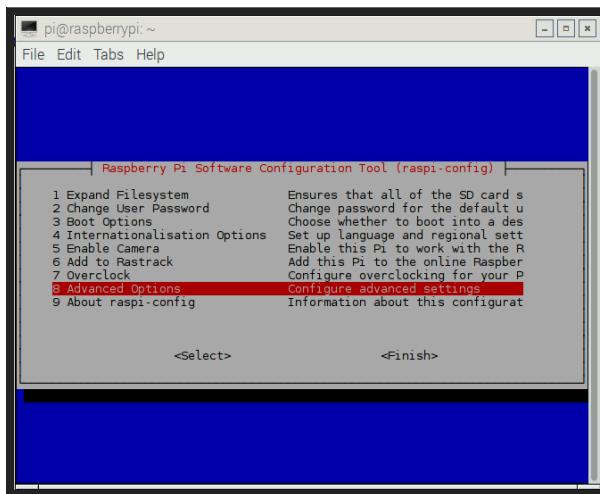
To start desktop from console:

```
startx
```

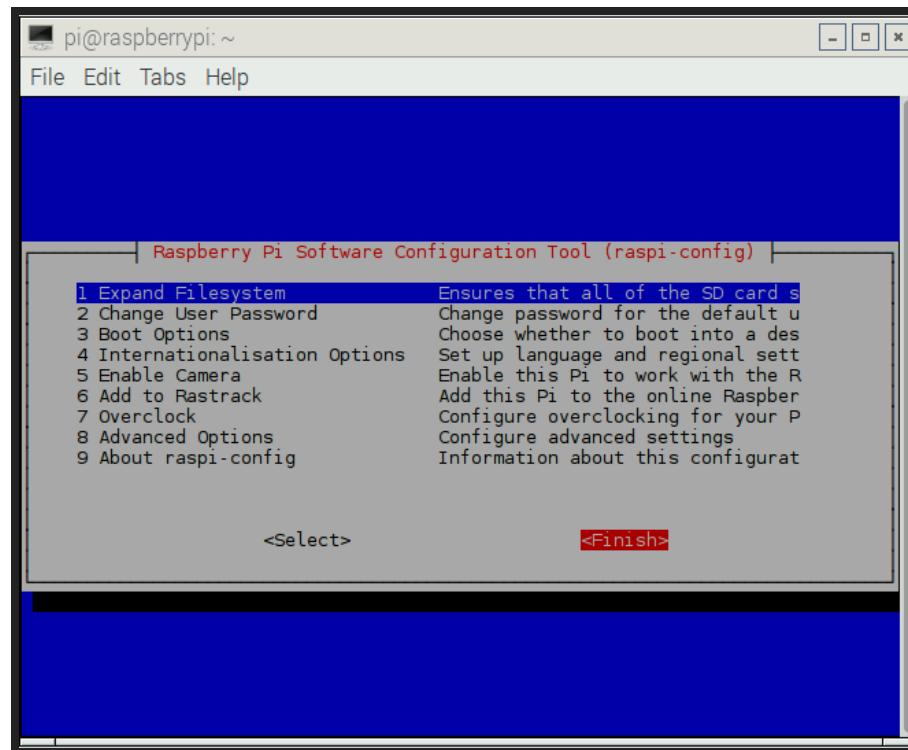
PI SETUP - RASPI-CONFIG - ENABLE CAMERA



PI SETUP - RASPI-CONFIG - ADVANCED OPTIONS



PI SETUP - RASPI-CONFIG - FINISH



PI SETUP - TEST CAMERA

```
raspistill -o "test.jpg"
```

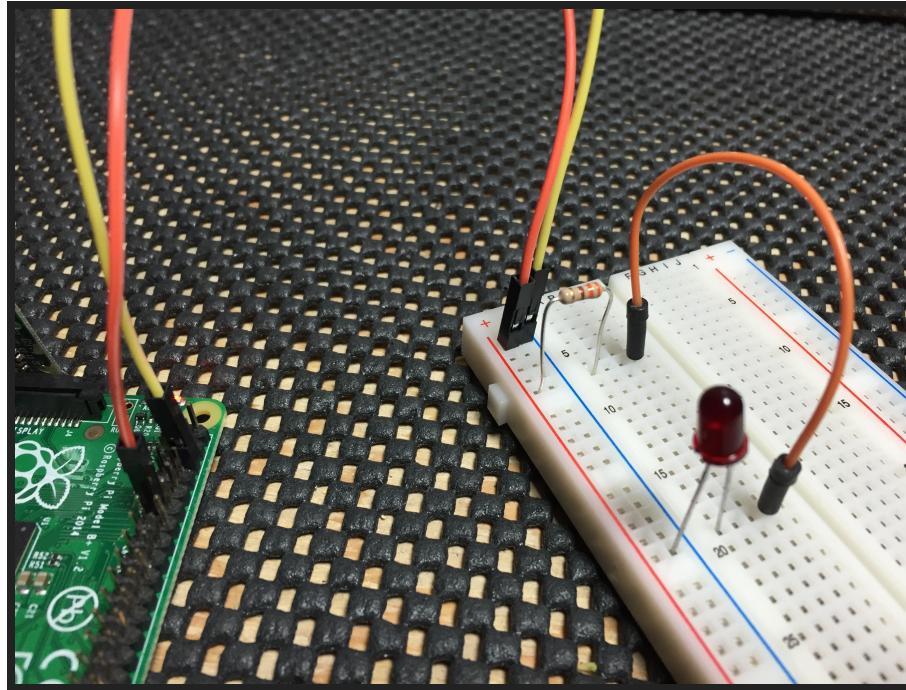
PI SETUP - UPDATE RASPBIAN

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

PI SETUP - INSTALL NODE

```
curl -sLS https://apt.adafruit.com/add | sudo bash  
sudo apt-get install node  
node -v
```

PI BLINKY - OVERVIEW



```
npm install rpi-gpio --save-dev
```

ARDUINO - SOUP TO NUTS

- Build circuit
- Write code
- Upload to device
- After uploaded, can disconnect from PC