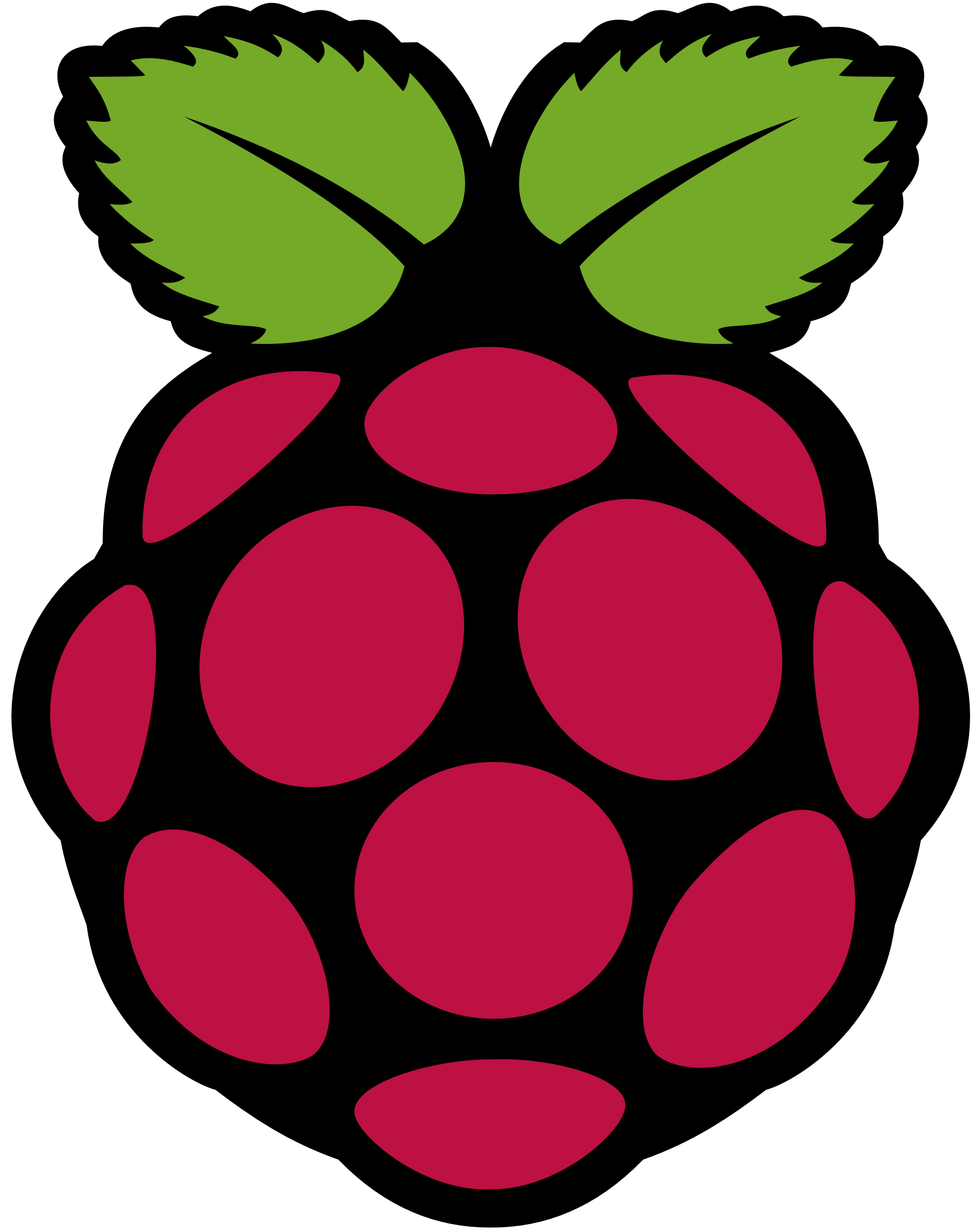
# Raspberry Pi Operating System Terminal

|  |  |
| --- | --- |
| cd .. | Change to parent directory |
| cd [path] | Move to the directory at [path] |
| cd / | **Change to root directory** |
| cd ~ | **Change to your home directory - usually "/home/"** |
| cp -r [from] [to] | Copy all files and subdirectories from source [from] to destination [to] |
| cp [from] [to] | Copy a file from source [from] to destination [to] |
| find | Search for files and their contents |
| ls | **List the contents of the current directory** |
| ls -a | List all files including hidden files |
| ls -l | List the contents of the current directory with more file information |
| ls [path] | List the contents of the directory found at [path] |
| man [command] | Open the manual/help page for [command] |
| man man | Open the manual/help page for the ‘man’ command (helpception) |
| mkdir [name] | Create a directory called [name] in the current working directory |
| mv -r [from] [to] | Move all files and directories from source [from] to destination [to] |
| mv [from] [to] | Move a file from source [from] to destination [to] |
| pinout | **Print the Raspberry PI GPIO pin details** |
| pwd | Show the name of the current working directory |
| python --version | Shows you what version of Python you currently have installed |
| rm -r \* | Remove all files and directories from the current working directory |
| rm [name] | Remove the specified file |
| rm \* | Remove all files from the current working directory |
| rmdir [name] | Remove the empty directory [name] from the current working directory |
| sudo [command] | **Superuser do. Execute [command] with elevated privileges** |
| sudo apt-get install [package] | Install a package |
| sudo apt-get update | **Update the list of packages** |
| sudo apt-get upgrade | **Upgrade the installed packages. Run after sudo apt-get update** |
| sudo chown pi:root [name] | Change the owner of the file [name] to user 'pi' and set the group to 'root' |
| sudo raspi-config | **Launch the Raspberry Pi configuration menu** |
| sudo reboot | Safely restart your Pi |
| sudo shutdown -h now | Safely shutdown your Pi immediately |
| sudo su | Places you in the root directory with root user access - be careful with this! |
| tar -cvzf [name] [path] | Create compressed file [name] from the contents of [path] |
| tar -xvzf [name] | Extract the contents of the compressed file [name] |
| wget [uri] | **Download the file found at** [**https://www.\*\***](https://www.**) **address on the internet** |

**Legend**: [name], [path], [command], [uri] – replace these and the brackets are not required



# Raspberry Pi Python Programing

|  |  |
| --- | --- |
| import RPi.GPIO as GPIO | Import the RPi.GPIO module into the python |
| GPIO.setmode(GPIO.BCM) | **Use Broadcom pin numbers (GPIO 14, GPIO 15 etc)** |
| GPIO.setmode(GPIO.BOARD) | Use board pin numbers (4,5, 8 etc) |
| GPIO.getmode() | Returns current pin numbering mode (BCM, BOARD, or None) |
| GPIO.setup([pin number], GPIO.IN) | **Set up the pin at [pin number] to be an input** |
| GPIO.setup([pin number], GPIO.IN, pull\_up\_down=GPIO.PUD\_DOWN) | Set up the pin at [pin number] to be an input with internal pull down resistance |
| GPIO.setup([pin number], GPIO.IN, pull\_up\_down=GPIO.PUD\_UP) | Set up the pin at [pin number] to be an input with internal pull up resistance |
| GPIO.setup([pin number], GPIO.OUT) | **Set up the pin at [pin number] to be an output** |
| GPIO.setup([pin number], GPIO.OUT, initial=1) | Set up the pin at [pin number] to be an output with the initial value '1' |
| GPIO.output([pin number], 1) | Set [pin number]'s value to 1. Note that **1**, **GPIO.HIGH** and **True** are the same thing |
| GPIO.output([pin number], 0) | Set [pin number]'s value to 0. Note that **0**, **GPIO.LOW** and **False** are the same thing |
| i = GPIO.input([pin number]) | Set the variable i to the value of [pin number] |
| if GPIO.input([pin number]): | Use the value of [pin number] as a boolean in code |
| GPIO.cleanup() | **Reset all GPIO pins**  (good practice to call before leaving any program) |
| GPIO.VERSION | Returns **current RPi.GPIO version** |

**Legend**: [pin number] – replace with a number and no bracketsA circuit board

Description automatically generatedA circuit board

Description automatically generated

**4**

**3**

Pin 1

Pin 1