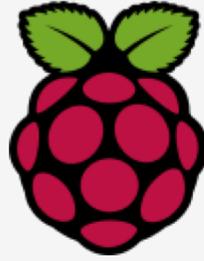


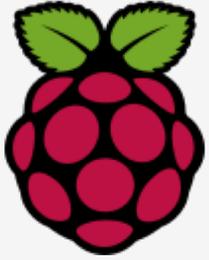
MINECRAFT PYTHON

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*What are we
going to do
today?*





What is the Raspberry Pi?

- Single-board computer
 - More than a microcontroller
 - Cost: ~30€
 - Purpose: Teaching!
-



*We can build
a robot that
can bring us a
nice hot
chocolate.*



Have you played Minecraft?

- Extreme imagination!
 - First Person Camera
 - Move around
 - Create blocks
 - Break blocks
-



*When you
have
waaayyy
too much
free time...*



Let's make this more interesting with Programming

What is programming?

What is a programming language?

People who program?



A programmer...

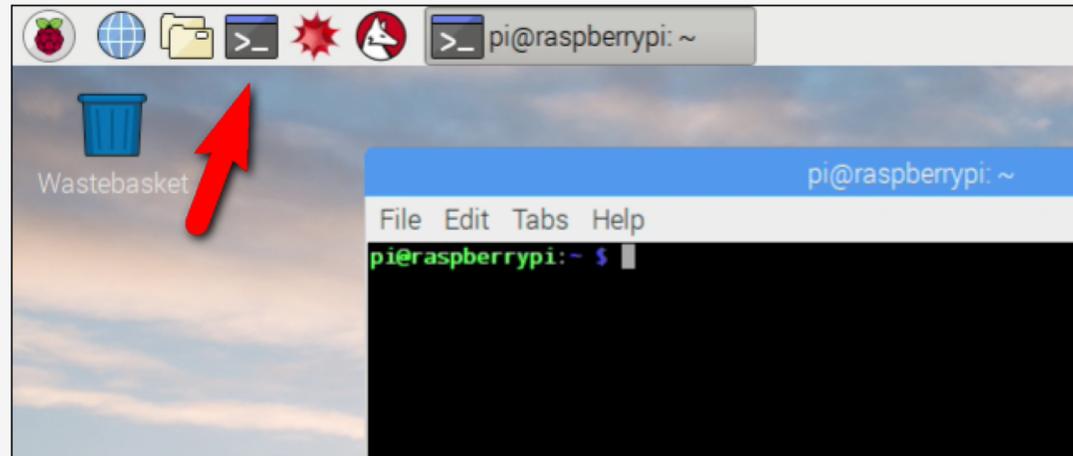


A real programmer!!!



Intro to Python

Open a terminal



Enter the Python Interpreter.

```
~$ python
```

(TYPE ONLY WHAT'S IN RED)

More Python...

(Remember: TYPE ONLY WHAT'S IN RED)

Add numbers	>>> 3 + 2
Print Hello	>>> print "Hello"
Create variables	>>> cats = 2
	>>> dogs = 4
	>>> pets = cats + dogs
	>>> print pets
print from 0 to 100	>>> for i in range(0,100): (press Enter)
	(press Tab) print i

Press **ctrl+d** to see the green letters again.

Let's create a file with our first program.

myCode.py

*Time to mess around with Minecraft
using Python*

-Step 1-

import the Minecraft library and connect to game

Open the *myCode.py* file with a code editor,
and type:

```
import mcpi.minecraft as minecraft
```

```
mc = minecraft.Minecraft.create()
```

*-Step 2-
print to terminal and then to Minecraft chat*

```
mc.postToChat("Hi Minecraft!")
```

Let's see what we've done so far...

Go to the terminal and type:

```
~$ python myCode.py
```

-Step 3-

Where am I? Get my position.

```
pos = mc.player.getTilePos()
```

```
print pos
```

-Step 4-

import the block library and create a block

```
import mcpi.block as block  
mc.setBlock(pos.x, pos.y, pos.z+2, block.STONE.id)
```

Again, let's see what we've done...

Go to the terminal and type:

```
~$ python myCode.py
```

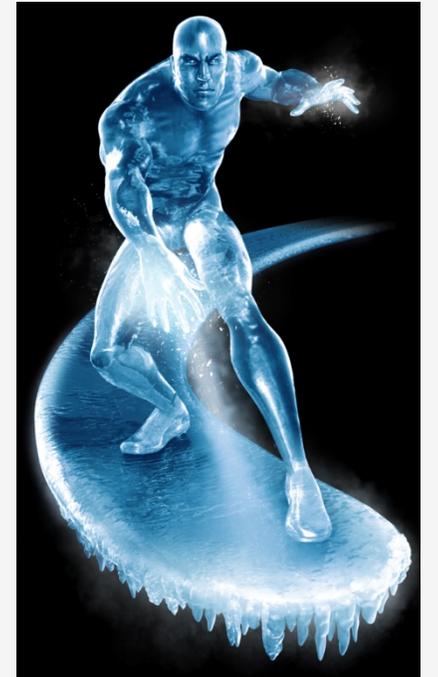
-Step 5-

I'm an Ice-Man too!!!! Forever....

while(True):

pos = mc.player.getTilePos()

mc.setBlock(pos.x, pos.y-1, pos.z, block.ICE.id)



Do we have time for -Step 6-?

import random lib and create a grid of random objects.

```
import random
```

```
pos = mc.player.getTilePos()
```

```
for i in range(-5, 5):
```

```
    for j in range(-5, 5):
```

```
        random.seed()
```

```
        randBlock = block.Block( random.randint(1,10) )
```

```
        mc.setBlock(pos.x+i, pos.y, pos.z+8+j, randBlock)
```

Questions?

More reading for the potential programmers of the future:

<http://openbookproject.net/thinkcs/python/english3e/>

<https://www.stuffaboutcode.com/p/minecraft-api-reference.html>
