

Universidad Autónoma De Guadalajara



Primeros pasos con la RPI Zero W

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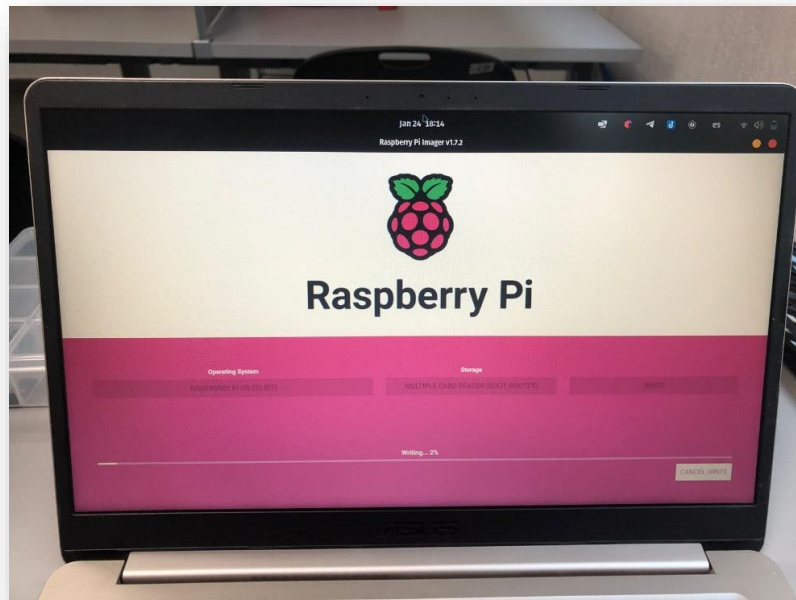
Number – 3264702, 4722652

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Teacher - Mario Ignacio Castañeda López

¿What we did?

First we flash the Raspberry operating system to the SD card with the RaspberryPi Imager software.



Then, we register the IP of our network on the board. To be able to log in to PUTTY.



After that, we went to the route established by the practice in order to activate the ports of the board we were going to use.

```
Sebrizzio@SebasPi: /sys/class/gpio
Sebrizzio@SebasPi:~$ ls -l
-bash: ls -l: command not found
Sebrizzio@SebasPi:~$ ls
Bookshelf  Desktop  Downloads  helloworld  Music  Public  Templates
Sebrizzio@SebasPi:~$ $ vi
-bash: $: command not found
Sebrizzio@SebasPi:~$ vi etc/

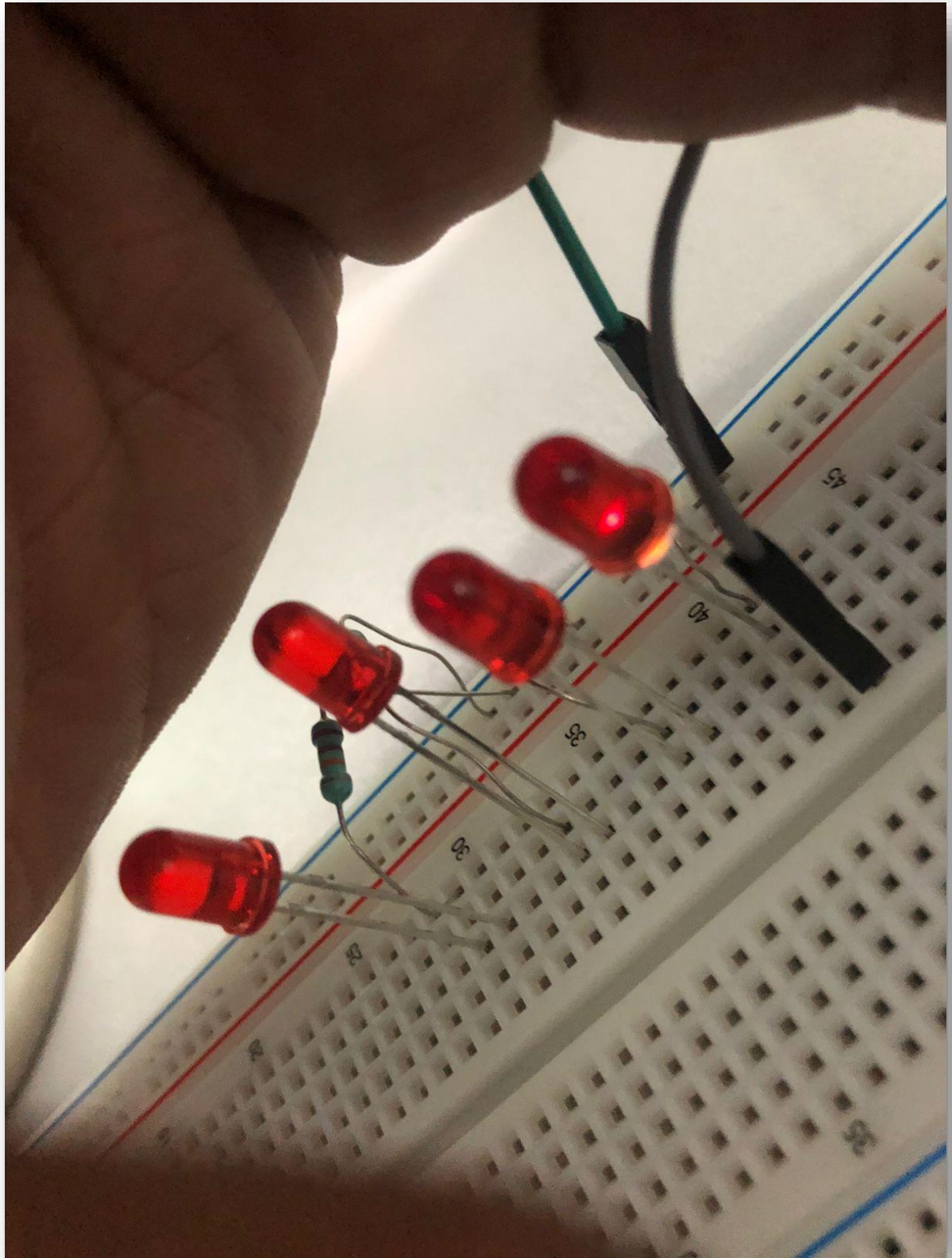
[1]+  Stopped                  vi etc/
Sebrizzio@SebasPi:~$ vi /etc/

[2]+  Stopped                  vi /etc/
Sebrizzio@SebasPi:~$ ls
Bookshelf  Desktop  Documents  Downloads  helloworld  helloworld.c  Music  Pictures  Public  Seb
Sebrizzio@SebasPi:~$ vi /etc/

[3]+  Stopped                  vi /etc/
Sebrizzio@SebasPi:~$ /sys/class/gpio
-bash: /sys/class/gpio: is a directory
Sebrizzio@SebasPi:~$ cd /sys/class/gpio
Sebrizzio@SebasPi:/sys/class/gpio$ ls
export  gpiochip0  unexport
Sebrizzio@SebasPi:/sys/class/gpio$
```

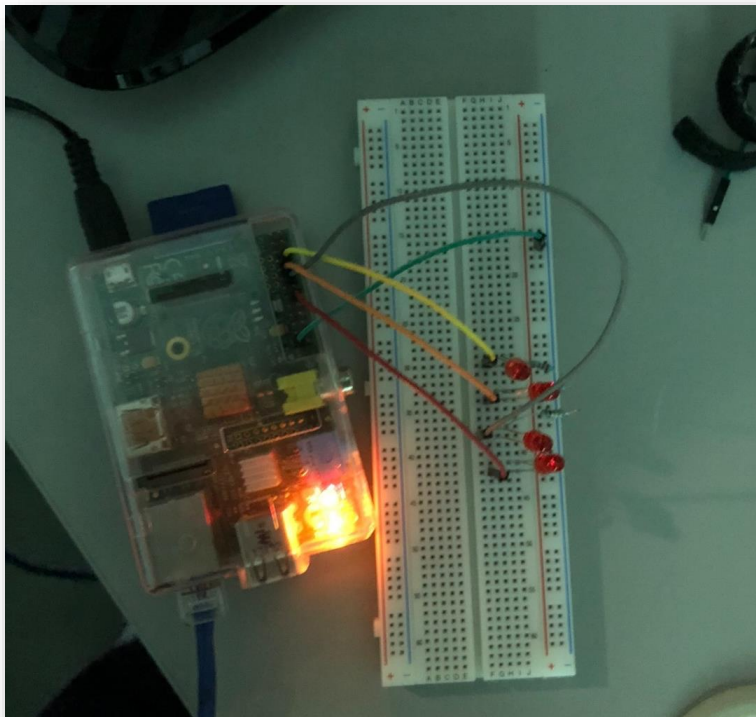
We activated the port we needed to turn on, which indeed worked.

```
Sebrizzio@SebasPi: /sys/class/gpio/gpio18
Sebrizzio@SebasPi:/sys/class/gpio$ echo 18 > export
Sebrizzio@SebasPi:/sys/class/gpio$ ls
export  gpio18  gpiochip0  unexport
Sebrizzio@SebasPi:/sys/class/gpio$ cd gpio18
Sebrizzio@SebasPi:/sys/class/gpio/gpio18$ ls
active  low  device  direction  edge  power  subsystem  uevent  value
Sebrizzio@SebasPi:/sys/class/gpio/gpio18$ echo out > direction
Sebrizzio@SebasPi:/sys/class/gpio/gpio18$ echo 1 > value
Sebrizzio@SebasPi:/sys/class/gpio/gpio18$
```



Finally, with the same process to turn on one LED, we create a bash file to activate and turn on other three LED's, having as such four LEDs turned on.

```
Sebitrio@Sebas% ~  
GNU nano 5.4                                practica2.sh  
#!/bin/bash  
  
cd /sys/class/gpio  
  
cd gpio18  
echo out > direction  
echo 1 > value  
sleep 1  
echo 0 > value  
cd ..  
  
cd gpio15  
echo out > direction  
echo 1 > value  
sleep 1  
echo 0 > value  
cd ..  
  
cd gpio14  
echo out > direction  
echo 1 > value  
sleep 1  
echo 0 > value  
cd ..  
  
cd gpio23  
echo out > direction  
echo 1 > value  
sleep 1  
echo 0 > value  
cd ..  
█
```



Difficulties:

What first made it difficult for us was to be able to first link the card with our network, since for us it was practically a new way to work, as it was the first time we worked with the RaspberryPi card. It took us a long time to get it to connect, until we connected our card directly to the modem because it did not have the necessary equipment to connect it wirelessly.

Conclusión:

In conclusion, this practice helped us to understand a little more about how permissions work in linux, bash files, and compilation commands for different languages. As mentioned in the difficulties, it was our first time using the RaspberryPi, so we also had to understand its ports and their functionality.

Previously we had a theoretical idea of how all these commands and processes worked, but by working with them, we were able to have a clearer vision of how and what we can use them for in future practices or tasks of the subject.