CURSO DE RASPBERRY PI

Introducción

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SEMANA 3

Contenido:

LCD

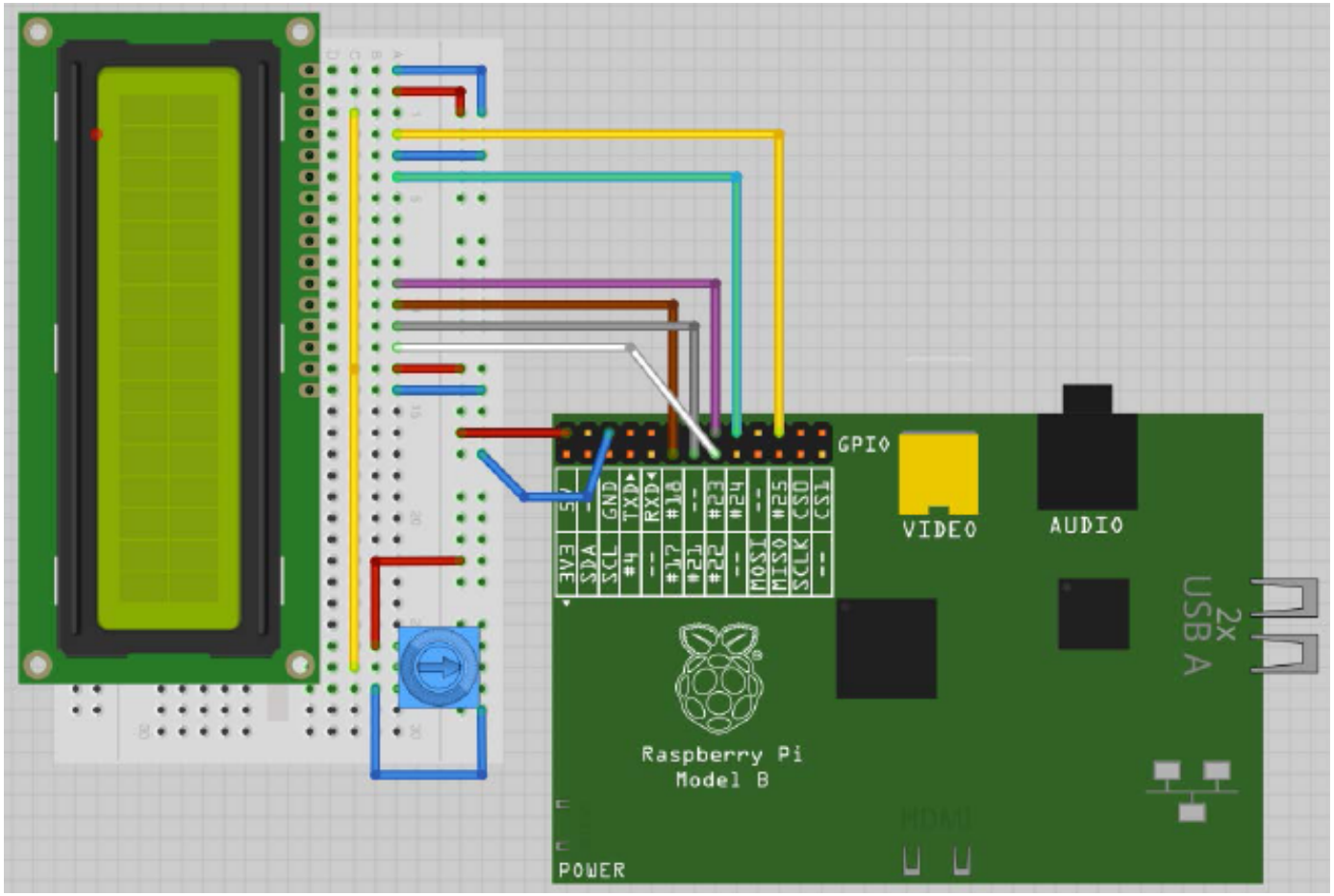

Figura : Conección

LCD	GPIO	Description
1	GND	0V
2	+5V	5V logic supply
3	No connection	Contrast control voltage
4	25	RS: Register select
5	GND	RW: Read/write (always write)
6	24	EN: Enable
7-10	No connection	Only used In eight-bit mode
11	23	D4: Data line 4
12	17	D5: Data line 5
13	21	D6: Data line 6
14	22	D7: Data line 7
15	+5V	LED backlight
16	GND	LED backlight-

Cuadro : Connection between LCD and Rpi

```
$ git clone https://github.com/adafruit/Adafruit-Raspberry-Pi-Python-Code.git
$ cd Adafruit-Raspberry-Pi-Python-Code
$ cd Adafruit_CharLCD
```

La libreria provee las siguientes funciones:

Function	**Description**
home()	Move to top left
clear()	Clear all text off the display.
setCursor(column, row)	Set the cursor position from where text will be written
cursor()	Turn on cursor display
noCursor()	Turn off cursor display (default)
message(text)	Write the text at the current cursor position

Teclado Matricial

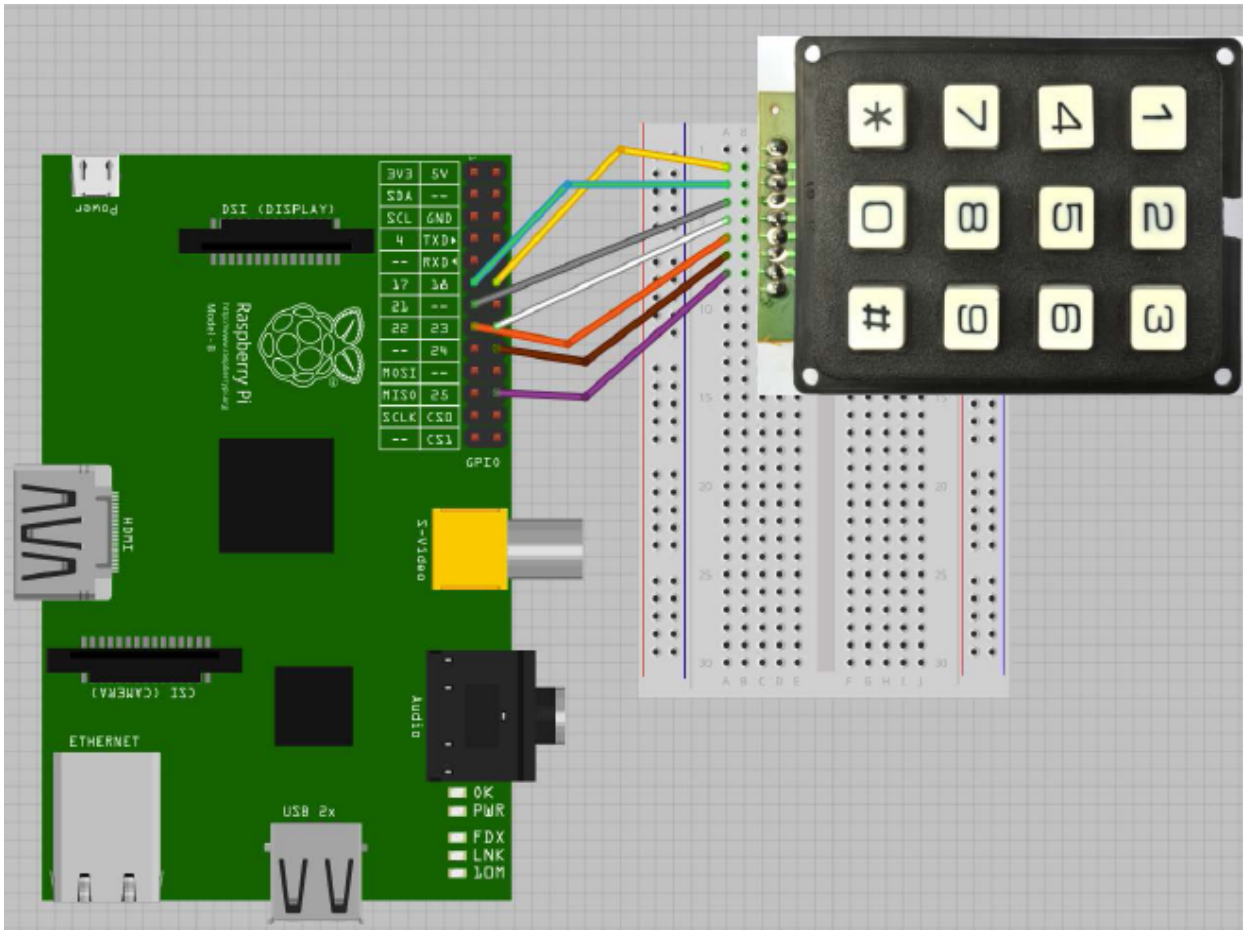

Figura : Conección

```
import RPi.GPIO as GPIO
import time
GPIO.setmode(GPIO.BCM)
rows = [17, 25, 24, 23]
cols = [27, 18, 22]
keys = [
    ['1', '2', '3'],
    ['4', '5', '6'],
    ['7', '8', '9'],
    ['*', '0', '#']]
for row_pin in rows:
    GPIO.setup(row_pin, GPIO.IN, pull_up_down=GPIO.PUD_DOWN)
for col_pin in cols:
    GPIO.setup(col_pin, GPIO.OUT)
def get_key():
    key = 0
    for col_num, col_pin in enumerate(cols):
        GPIO.output(col_pin, 1)
        for row_num, row_pin in enumerate(rows):
            if GPIO.input(row_pin):
                key = keys[row_num][col_num]
        GPIO.output(col_pin, 0)
    return key
while True:
    key = get_key()
    if key :
        print(key)
    time.sleep(0.3)
```

UART

Por defecto, el puerto serial actua como consola, para deshabilitar haz lo siguiente:

- $ sudo nano /etc/inittab
- $ T0:23:respawn:/sbin/getty -L ttyAMA0 115200 vt100
- $ #T0:23:respawn:/sbin/getty -L ttyAMA0 115200 vt100

Instalación

- $ sudo apt-get install python-serial
- $ sudo usermod -a -G tty pi
- $ sudo usermod -a -G dialout pi

```
import serial
ser = serial.Serial('/dev/ttyAMA0', 9600)
ser.write('some text')
while True:
    print(ser.read())
```

Instalación

- $ sudo apt-get update
- $ sudo apt-get install arduino

pyFirmata

```
$ git clone https://github.com/tino/pyFirmata.git
$ cd pyFirmata
$ sudo python setup.py install
```