Practical No : 3

Displaying Time over 4-Digit 7-Segment Display using Raspberry Pi

Update your Raspbian:

$ sudo apt update

$ sudo apt upgrade

6. Configure the Raspberry:

$ sudo raspi-config

a. Change User Password

b. Localization Options -> Change Timezone Select your Local Timezone

c. Tab to Finish

7. Install the software:

$ cd /home/pi

$ sudo apt update

$ sudo apt install git

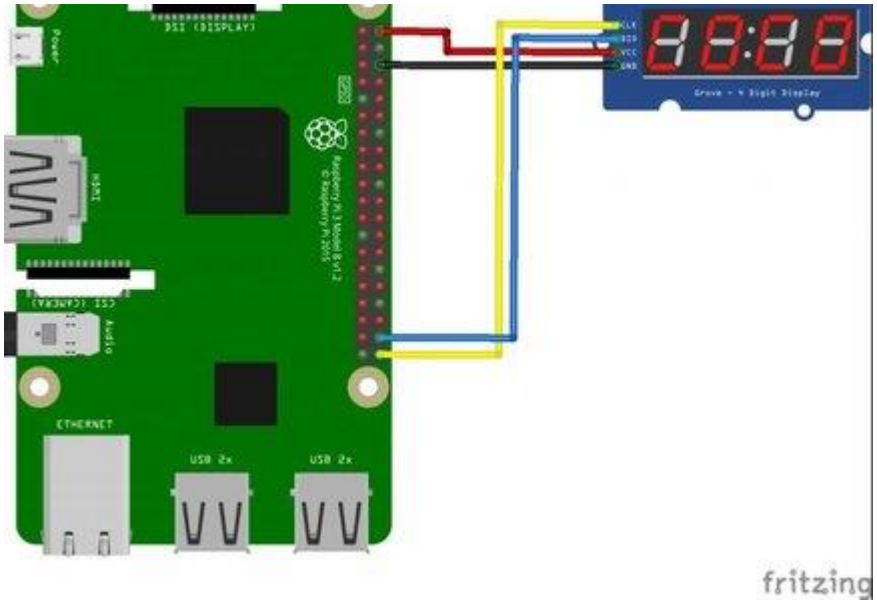
$ git clone https://github.com/timwaizenegger/raspberrypi-examples/tree/master/actor-led-7segment-4numbers

8. Power down your Pi for setting up the hardware

$ shutdown now

After the LED goes off unplug the power

Step 4: Hardware Wiring



You can solder connectors onto the TM1637 modules and the Raspberry Pi (if it doesn't already have a connector). Before

beginning, decide how you want to mount the displays and if you are going to use a breadboard or solder wires directly onto the Pi and display modules.

TM1637 Module Pins

Wiring Note: Some tm1637 modules flip the +5v and GND pins! So may not appear same as the photos.

The TM1637 module is a 4-digit led display module which uses the TM1637 driver chip. It needs only two connections to control the 4-digit 8-segment display. Two other wires feed 5+ volt power and ground.

```
PIN     DESC

CLK     Clock
DIO     Data In
GND     Ground
5V      +5 volts

Some tm1637 modules flip the +5v and GND pins, so check your module's markings
```

Test each Module

I suggest starting with single 4 wire female connector cable with male connectors soldered to one of the modules and the Pi. Then temporarily connect the first module up to the pins shown below.

```
TEMPORARY TEST A MODULE
TM1637 Module Pin        Pi Physical Pin#
```

```
5V                      2

GND                     6

CLK                     40

DIO                     38

See the GPIO Diagrams farther down to find the pin layouts.
```

The second photo shows two displays temporarily wired to a Raspberry Pi 3 with the software running.

1. Once you have a module temporarily wired up and checked your wiring

2. Power up the Raspberry Pi.
The red LED on the Module should light, but there will be NO DISPLAY yet.

3. SSH into your Pi again like previously.

$ cd actor-led-7segment-4numbers

$ sudo python tm1637.py

$ python -V (capital “V”)

Python 2.7.X

$ sudo shutdown now

Step 6: Testing!

$ sudo python clock.py

$ sudo python displayIP.py