Hello Friends, Welcome to the video tutorial on the Raspberry Pi.

In this tutorial we will learn how to enable I2c interface on rpi

Before that let us understand what is I2c.

* I2C stands for inter-integrated circuits
* It is a protocol for communication between two devices.
* I²C is a multi-master protocol that uses 2 signal lines.
* The two I²C signals are called ‘serial data’ (SDA) and ‘serial clock’ (SCL)
* the IC that initiates a data transfer on the bus is considered the Bus Master. At that time all devices are considered as slaves.

Using I2c protocol we are interfacing MCP23017 port expander IC. I2c interface on rpi is disable by default. So in this tutorial we are going to explain how to enable i2c interface. Then detect the address of device interfaced.

So, lets go

Open LXterminal on Rpi.

Type sudo raspi-config in termal and hit enter.

This will open raspberry pi configuration tool menu.

Using arrow keys on keyboard go to advanced options and hit enter.

Next go to I2C and hit enter.

New window will ask to enable I2c interface.

Go for yes

Then it will ask if you would like I2C kernel module to be uploaded

by default. Select YES.

Now, Confirmation message will be shown.Click OK

Select Finish to return to command line.

Next we need to edit the modules file

Type sudo nano /etc/modules and hit enter

Simply add these two lines # i2c-bcm2708

# i2c-dev

Use CTRL-X, then Y, then RETURN to save the file and exit.

To help debugging and allow the i2c interface to be used within Python we have to install python-smbus and i2c-tools :

Check your pi is connected to internet or not

To do this type

sudo apt-get update

sudo apt-get install -y python-smbus i2c-tools

Restart your pi

Type sudo reboot and hit enter

Now we can check whether i2c module is running or not by using following commands

Lsmod-grep i2c-

That will list all the modules starting with i2c . If it lists

i2c bcm2708 then the module is running correctly.

Now we connect mcp23017 ic as shown in fig. Then to detect the address of i2c device.

Type sudo i2cdetect –y 1 in lxterminal

And we get output as: and this shows that our device is connected to i2c bus and its address is 0x20