MPU6050 interfacing with ESP32

26 January 2024 17:31

Constraints

Flex ✗

Audio amp ✗

∴ We are left with MPU 6050 for 30 Jan

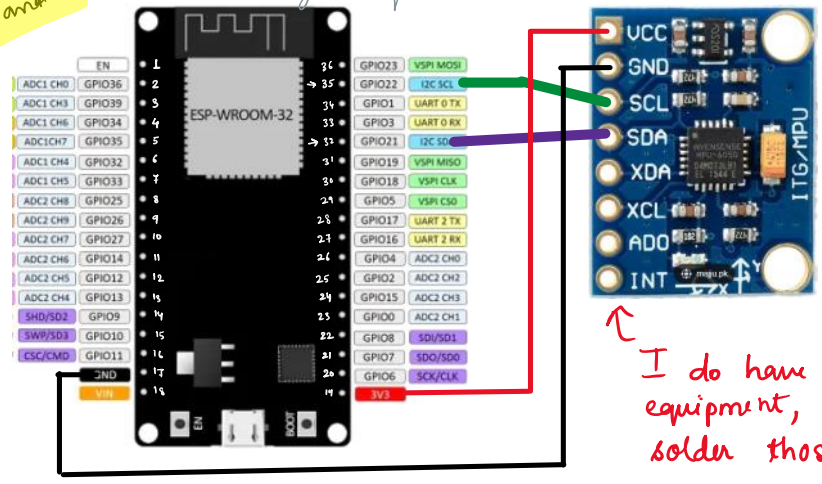
We have 30 pin board.

But do necessity for 3V3 and Gnd

∴ Try to use mtm wires right now.

Soldering not possible right now. only if college gives equipment

Supports I²C comm. ∴ connected to I²C Pins



I do have soldering equipment, we can solder those pins later.

```
#include <Adafruit_MPU6050.h>
#include <Adafruit_Sensor.h>
#include <Wire.h>

Adafruit_MPU6050 Gyro;
float angle_tilt;
```

Provides fn to interact with MPU 6050

Available in Library manager.

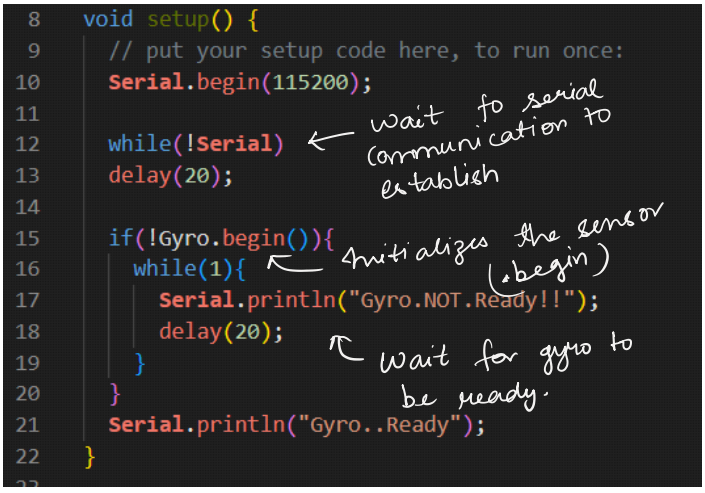
Provides common interface for different sensors.

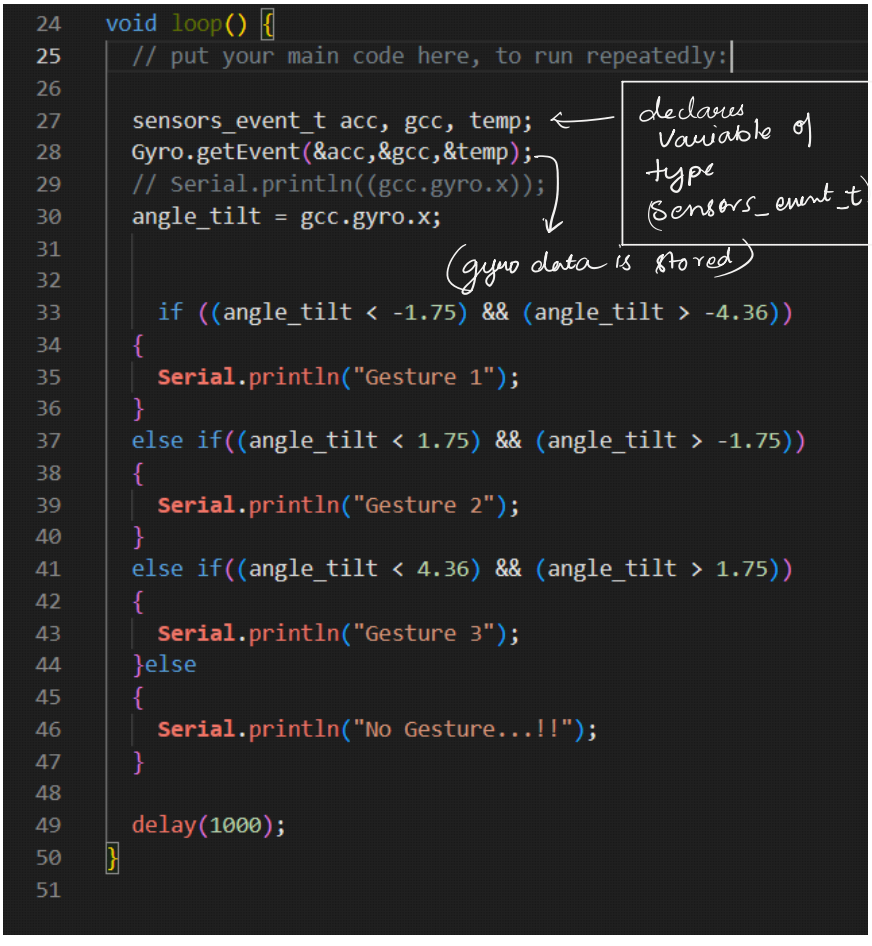
Used for I2C comm

We might not need this... but as a precautionary measure

Creates object gyro.

to store tilt value.


void setup() {
// put your setup code here, to run once:
Serial.begin(115200);
while(!Serial)
delay(20);
if(!Gyro.begin()){
while(1){
Serial.println("Gyro.NOT.Ready!!");
delay(20);
}
}
Serial.println("Gyro..Ready");
}
wait fo serial communication to establish
Initializes the sensor (.begin)
Wait for gyro to be ready.


void loop() {
// put your main code here, to run repeatedly:
sensors_event_t acc, gcc, temp;
Gyro.getEvent(&acc,&gcc,&temp);
// Serial.println((gcc.gyro.x));
angle_tilt = gcc.gyro.x;
if ((angle_tilt < -1.75) && (angle_tilt > -4.36))
{
Serial.println("Gesture 1");
}
else if((angle_tilt < 1.75) && (angle_tilt > -1.75))
{
Serial.println("Gesture 2");
}
else if((angle_tilt < 4.36) && (angle_tilt > 1.75))
{
Serial.println("Gesture 3");
}else
{
Serial.println("No Gesture...!!");
}
delay(1000);
}
declares Variable of type (sensors_event_t)
(gyro data is stored)