PROJECT DEVELOPMENT PHASE
SPRINT-1
IOT DEVICE

Team ID	PNT2022TMID11653
Project Name	IoT Based Safety Gadget for Child Safety Monitoring and Notification
Maximum Marks	10 marks

AIM:

To get the coordinates of the child using GPS & ESP32.

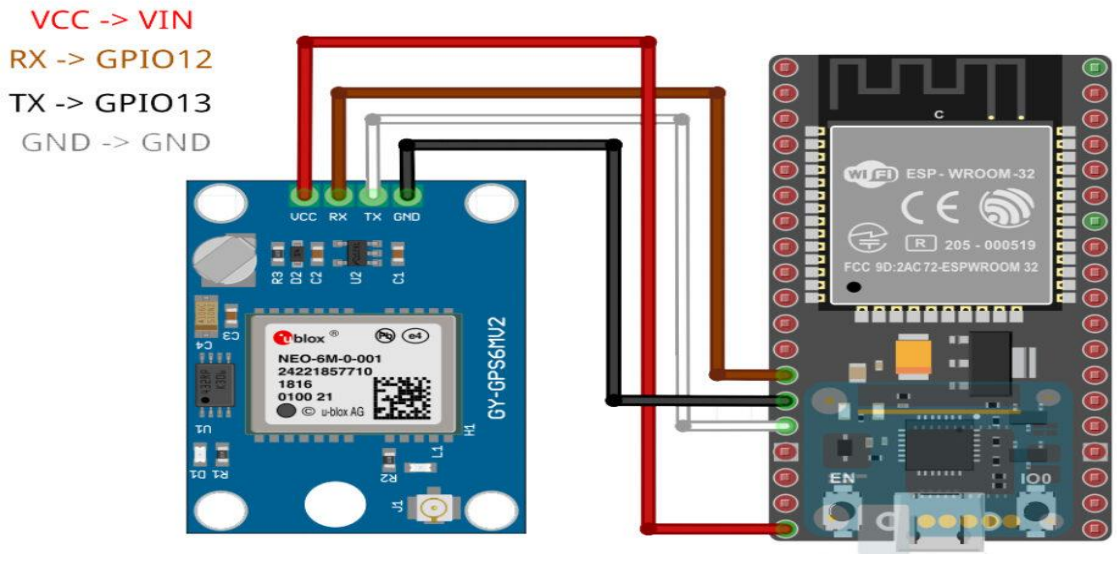
HARDWARE REQUIRED:

- ESP32-WROOM-32U
- NEO-6M GPS Module
- Micro-USB Cable
- Connecting wires

SOFTWARE REQUIRED:

- Arduino IDE to run the program.

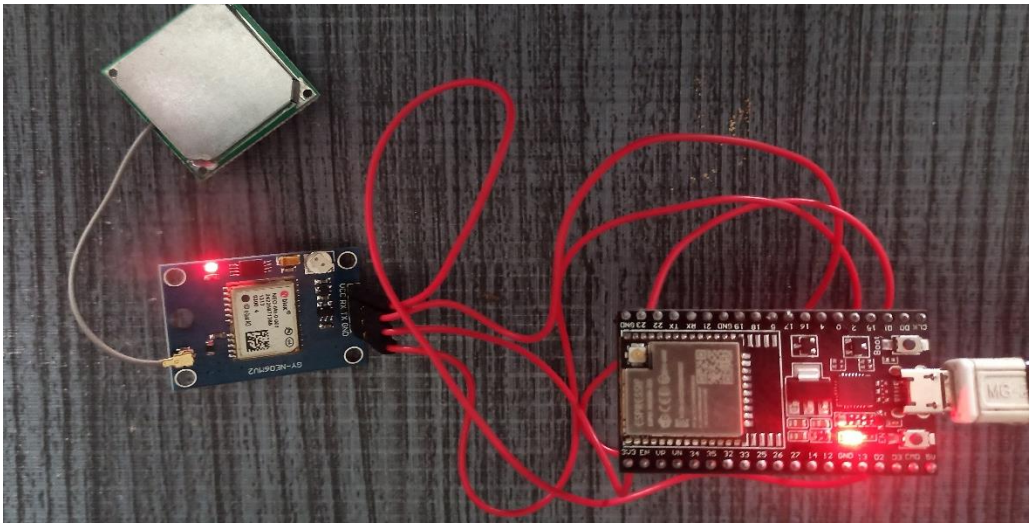
CIRCUIT DIAGRAM:



PIN CONNECTION:

ESP32 board	NEO-6M Module
VCC = 5V	VCC
RX0	TX
TX0	RX
GND	GND

WIRE CONNECTION:

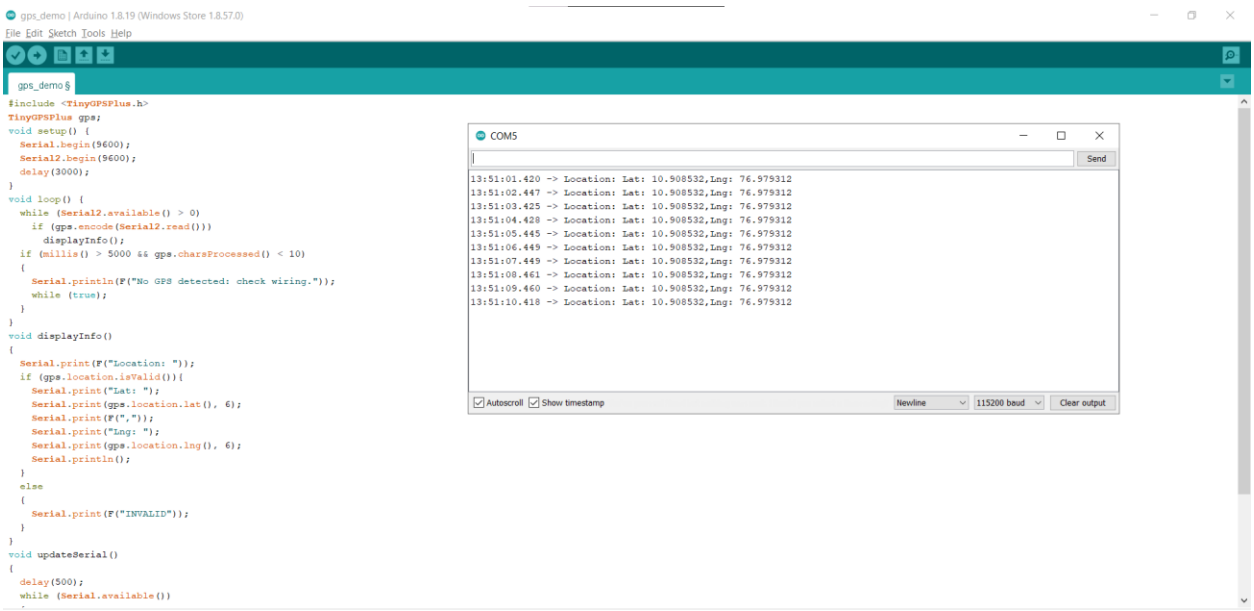


SOURCE CODE FOR COORDINATES:

```
#include <TinyGPSPlus.h>
TinyGPSPlus gps;
void setup()
{
    Serial.begin(9600);
    Serial2.begin(9600);
    delay(3000);
}
void loop()
{
   while (Serial2.available() > 0)
   if (gps.encode(Serial2.read()))
       displayInfo();
```

```
   if (millis() > 5000 && gps.charsProcessed() < 10)
   {
       Serial.println(F("No GPS detected: check wiring."));
      while (true);
   }
 }
void displayInfo()
{
    Serial.print(F("Location: "));
    if (gps.location.isValid())
    {
        Serial.print("Lat: ");
        Serial.print(gps.location.lat(), 6);
        Serial.print(F(","));
        Serial.print("Lng: ");
        Serial.print(gps.location.lng(), 6);
        Serial.println();
     }
     else
     {
        Serial.print(F("INVALID"));
     }
}
void updateSerial()
{
    delay(500);
    while (Serial.available())
    {
        Serial2.write(Serial.read());//Forward what Serial received to Software Serial Port
    }
    while (Serial2.available())
    {
        Serial.write(Serial2.read());//Forward what Software Serial received to Serial Port
    }
}
```

Output:


gps_demo | Arduino 1.8.19 (Windows Store 1.8.57.0)
File Edit Sketch Tools Help
gps_demo §
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}
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{
Serial.print(F("INVALID"));
}
}
void updateSerial()
{
delay(500);
while (Serial.available())
COM5
Send
13:51:01.420 -> Location: Lat: 10.908532,Lng: 76.979312
13:51:02.447 -> Location: Lat: 10.908532,Lng: 76.979312
13:51:03.425 -> Location: Lat: 10.908532,Lng: 76.979312
13:51:04.428 -> Location: Lat: 10.908532,Lng: 76.979312
13:51:05.445 -> Location: Lat: 10.908532,Lng: 76.979312
13:51:06.449 -> Location: Lat: 10.908532,Lng: 76.979312
13:51:07.449 -> Location: Lat: 10.908532,Lng: 76.979312
13:51:08.461 -> Location: Lat: 10.908532,Lng: 76.979312
13:51:09.460 -> Location: Lat: 10.908532,Lng: 76.979312
13:51:10.418 -> Location: Lat: 10.908532,Lng: 76.979312
Autoscroll
Show timestamp
Newline
115200 baud
Clear output