PLACE	LAT, LON	NEXT STOP
KARUMATHAMPATTI	11.107241511785308, 77.17684512614439	KANIYUR
KANIYUR	11.095331344893252, 77.15186782349558	NEELAMBUR
NEELAMBUR	11.060802628384506, 77.08557953883675	CHINNAYAMPALAYAM
CHINNAYAMPALAYAM	11.054939068579541, 77.06509628047094	KMCH
KMCH	11.040500891509737, 77.04100392801953	SITRA
SITRA	11.038571800529647, 77.03824228413662	ARAVIND
ARAVIND	11.034941681420454, 77.03396671217283	CIT
CIT	11.028023073994838, 77.02456334813105	HOPES
HOPES	11.025930839812604, 77.01900756349369	PSG HOSPITAL
PSG HOSPITAL	11.024555131303154, 77.00847764867117	PEELAMEDU
PEELAMEDU	11.022826094673313, 77.0011435018567	RETURN

FINAL CODE:

```
#include <TinyGPS++.h>
#include <Wire.h>
#include <math.h>
#include <LiquidCrystal_I2C.h>
LiquidCrystal_I2C lcd(0x20,16,2);
TinyGPSPlus gps;
void getgps(TinyGPSPlus &gps);
float la,lo,t1,t2;
long int lt,lg;
int i;
#define button1 7
bool button_State;
char p[12][50]={"KARUMATHAMPATTI","KANIYUR","NEELAMBUR","CHINNAYAMPALAYAM","KMCH","SITRA","ARAVIND","CIT","HOPES","PSG HOSPITAL","PEELAMEDU"};

void setup() {
  // put your setup code here, to run once:
  pinMode(button1, INPUT_PULLUP);
  Serial.begin(9600);
  lcd.begin(16,2);
  lcd.init();                  // initialize the lcd
  lcd.init();
  // Print a message to the LCD.
  lcd.backlight();
}

void getgps(TinyGPSPlus &gps)
{
  if (gps.location.isValid() and gps.date.isValid() and gps.time.isValid())
  {
```

```
la=gps.location.lat();
lo=gps.location.lng();
Serial.print("Latitude: ");
Serial.println(la,20);
Serial.print("Longitude: ");
Serial.println(lo);
t1=round(la*1000);
lt=(long int) t1;
t2=round(lo*1000);
lg=(long int) t2;
if(lt==11107 and lg==77177)
{
 lcd.clear();
 lcd.setCursor(0,0);
 lcd.print("TRIP STARTS");
 delay(5000);
 lcd.clear();
 lcd.setCursor(0,0);
 lcd.print("NEXT STOP:");
 lcd.setCursor(0,1);
 lcd.print("KANIYUR");
 delay(2000);
}
else if(lt==11095 and lg==77152)
{
 lcd.clear();
 lcd.setCursor(0,0);
 lcd.print("NEXT STOP:");
 lcd.setCursor(0,1);
 lcd.print(p[i+2]);
 delay(2000);
```

```
}
else if(lt==11061 and lg==77086)
{
  lcd.clear();
  lcd.setCursor(0,0);
  lcd.print("NEXT STOP:");
  lcd.setCursor(0,1);
  lcd.print(p[i+3]);
  delay(2000);
}
else if(lt==11055 and lg==77065)
{
  lcd.clear();
  lcd.setCursor(0,0);
  lcd.print("NEXT STOP:");
  lcd.setCursor(0,1);
  lcd.print(p[i+4]);
  delay(2000);
}
else if(lt==11040 and lg==77041)
{
  lcd.clear();
  lcd.setCursor(0,0);
  lcd.print("NEXT STOP:");
  lcd.setCursor(0,1);
  lcd.print(p[i+5]);
  delay(2000);
}
else if(lt==11039 and lg==77038)
{
  lcd.clear();
```

```
  lcd.setCursor(0,0);
  lcd.print("NEXT STOP:");
  lcd.setCursor(0,1);
  lcd.print(p[i+6]);
  delay(2000);
 }
 else if(lt==11035 and lg==77034)
 {
  lcd.clear();
  lcd.setCursor(0,0);
  lcd.print("NEXT STOP:");
  lcd.setCursor(0,1);
  lcd.print(p[i+7]);
  delay(2000);
 }
 else if(lt==11028 and lg==77025)
 {
  lcd.clear();
  lcd.setCursor(0,0);
  lcd.print("NEXT STOP:");
  lcd.setCursor(0,1);
  lcd.print(p[i+8]);
  delay(2000);
 }
 else if(lt==11026 and lg==77019)
 {
  lcd.clear();
  lcd.setCursor(0,0);
  lcd.print("NEXT STOP:");
  lcd.setCursor(0,1);
  lcd.print(p[i+9]);
```

```
  delay(2000);
 }
 else if(lt==11025 and lg==77008)
 {
  lcd.clear();
  lcd.setCursor(0,0);
  lcd.print("NEXT STOP:");
  lcd.setCursor(0,1);
  lcd.print(p[i+10]);
  delay(2000);
 }
 else if(lt==11023 and lg==77001)
 {
  lcd.clear();
  lcd.setCursor(0,0);
  lcd.print("RETURN TRIP");
  delay(5000);
  lcd.clear();
  lcd.setCursor(0,0);
  lcd.print("NEXT STOP:");
  lcd.setCursor(0,1);
  lcd.print("PSG HOSPITAL");
  delay(2000);
 }
 else
 {
  lcd.clear();
  lcd.setCursor(0,0);
  lcd.print(lt);
  lcd.setCursor(0,1);
  lcd.print(lg);
```

```
   }
  }
}


void loop() {
  // put your main code here, to run repeatedly:
  button_State = digitalRead(button1);   //We are constantly reading the button State

  i=0;
  byte a;
  if (Serial.available() > 0 )
  {
    a = Serial.read();
    if (gps.encode(a))
    {
      if (button_State == LOW)         //PRESSED
      {
        Serial.println("TRIP STARTS");
        i=0;
        delay(200);
      }
      else
      {
        Serial.println("RETURN TRIP");
        i=-2;
        delay(200);
      }
      getgps(gps);
    }
```

```
  }
}
```

BACKUP CODE:

```
#include <TinyGPS++.h>
#include <Wire.h>
#include <math.h>
#include <LiquidCrystal_I2C.h>
LiquidCrystal_I2C lcd(0x20,16,2);
TinyGPSPlus gps;
void getgps(TinyGPSPlus &gps);
float la,lo,t1,t2;
long int lt,lg;

void setup() {
  // put your setup code here, to run once:
  Serial.begin(9600);
  lcd.begin(16,2);
  lcd.init();                    // initialize the lcd
  lcd.init();
  // Print a message to the LCD.
  lcd.backlight();
}

void getgps(TinyGPSPlus &gps)
{
  if (gps.location.isValid() and gps.date.isValid() and gps.time.isValid())
  {
    la=gps.location.lat();
```

```
lo=gps.location.lng();
Serial.print("Latitude: ");
Serial.println(la,20);
Serial.print("Longitude: ");
Serial.println(lo);
t1=round(la*1000);
lt=(long int) t1;
t2=round(lo*1000);
lg=(long int) t2;
if(lt==11107 and lg==77177)
{
 lcd.clear();
 lcd.setCursor(0,0);
 lcd.print("TRIP STARTS");
 delay(5000);
 lcd.clear();
 lcd.setCursor(0,0);
 lcd.print("NEXT STOP:");
 lcd.setCursor(0,1);
 lcd.print("KANIYUR");
 delay(2000);
}
else if(lt==11095 and lg==77152)
{
 lcd.clear();
 lcd.setCursor(0,0);
 lcd.print("NEXT STOP:");
 lcd.setCursor(0,1);
 lcd.print("NEELAMBUR");
 delay(2000);
}
```

```
else if(lt==11061 and lg==77086)
{
  lcd.clear();
  lcd.setCursor(0,0);
  lcd.print("NEXT STOP:");
  lcd.setCursor(0,1);
  lcd.print("CHINNAYAMPALAYAM");
  delay(2000);
}
else if(lt==11055 and lg==77065)
{
  lcd.clear();
  lcd.setCursor(0,0);
  lcd.print("NEXT STOP:");
  lcd.setCursor(0,1);
  lcd.print("KMCH");
  delay(2000);
}
else if(lt==11040 and lg==77041)
{
  lcd.clear();
  lcd.setCursor(0,0);
  lcd.print("NEXT STOP:");
  lcd.setCursor(0,1);
  lcd.print("SITRA");
  delay(2000);
}
else if(lt==11039 and lg==77038)
{
  lcd.clear();
  lcd.setCursor(0,0);
```

```
  lcd.print("NEXT STOP:");
  lcd.setCursor(0,1);
  lcd.print("ARAVIND");
  delay(2000);
 }
 else if(lt==11035 and lg==77034)
 {
  lcd.clear();
  lcd.setCursor(0,0);
  lcd.print("NEXT STOP:");
  lcd.setCursor(0,1);
  lcd.print("CIT");
  delay(2000);
 }
 else if(lt==11028 and lg==77025)
 {
  lcd.clear();
  lcd.setCursor(0,0);
  lcd.print("NEXT STOP:");
  lcd.setCursor(0,1);
  lcd.print("HOPES");
  delay(2000);
 }
 else if(lt==11026 and lg==77019)
 {
  lcd.clear();
  lcd.setCursor(0,0);
  lcd.print("NEXT STOP:");
  lcd.setCursor(0,1);
  lcd.print("PSG HOSPITAL");
  delay(2000);
```

```
}
else if(lt==11025 and lg==77008)
{
  lcd.clear();
  lcd.setCursor(0,0);
  lcd.print("NEXT STOP:");
  lcd.setCursor(0,1);
  lcd.print("PEELAMEDU");
  delay(2000);
}
else if(lt==11023 and lg==77001)
{
  lcd.clear();
  lcd.setCursor(0,0);
  lcd.print("RETURN TRIP");
  delay(5000);
  lcd.clear();
  lcd.setCursor(0,0);
  lcd.print("NEXT STOP:");
  lcd.setCursor(0,1);
  lcd.print("PSG HOSPITAL");
  delay(2000);
}
else
{
  lcd.clear();
  lcd.setCursor(0,0);
  lcd.print(lt);
  lcd.setCursor(0,1);
  lcd.print(lg);
```

```
    }
  }
}



void loop() {
  // put your main code here, to run repeatedly:
  byte a;
  if (Serial.available() > 0 )
  {
    a = Serial.read();
    if (gps.encode(a))
    {
      getgps(gps);
    }
  }
}
```