const int x=A0, y=A1, z=A2;

int xv=0, yv=0, zv=0;

#include <TinyGPS.h>

#include<SoftwareSerial.h>

SoftwareSerial SIM900A(10,9);

TinyGPS gps;

SoftwareSerial gps\_port(2,3);

char sz[32];

int p=A4, pv; //piezo

// int fr = 10, fv; //fire

int buzzer=9; //need to be defined

float latitude, longitude;

void setup()

{

 SIM900A.begin(9600);

 pinMode(buzzer, OUTPUT);// button

 digitalWrite(buzzer, LOW);

 Serial.begin(9600);

 gps\_port.begin(9600);

 delay(2000);

 init\_GSM();

 delay(2000);

}

void loop()

{

  Serial.print("xv");

  Serial.println(xv);

  Serial.print("yv");

  Serial.println(yv);

  encode\_gps();

  // fire();

  adxl();

//  piezo(); //open it if you are using piezo sensor

  delay(100);

}

// void Fire\_sms()

// {

//   digitalWrite(buzzer, HIGH);

//   Serial.println("AT");

//   delay(2000);

//   Serial.println("AT+CMGF=1");

//   delay(2000);

//   Serial.println("AT+CMGS=\"+91\*\*\*\*\*\*\*\*\*\*\"\r"); // Replace your mobile no here in which you want to receive sms

//   delay(2000);

//   Serial.print("Car Fire Alert at ");

//   Serial.print("http://www.google.com/maps/place/");

//   delay(2000);

//   Serial.print(latitude,6);

//   Serial.print(",");

//   Serial.println(longitude,6);

//   delay(1000);

//   Serial.print(sz);

//   Serial.print(",");

//   Serial.println((char)26);//the stopping character

//   delay(2000);

//   digitalWrite(buzzer, LOW);

// }

void Accident\_sms()

{

  digitalWrite(buzzer, HIGH);

  SIM900A.println("AT");

  delay(2000);

  SIM900A.println("AT+CMGF=1");

  delay(2000);

  SIM900A.println("AT+CMGS=\"+919182865169\"\r"); // Replace your mobile no here in which you want to receive sms

  delay(2000);

  SIM900A.print("Car Accident Alert at ");

  SIM900A.print("http://www.google.com/maps/place/");

  delay(2000);

  SIM900A.print(latitude,6);

  SIM900A.print(",");

  SIM900A.println(longitude,6);

  delay(1000);

  SIM900A.print(sz);

  SIM900A.print(",");

  SIM900A.println((char)26);

  Serial.println("message sent...");

  delay(2000);

  digitalWrite(buzzer, LOW);

}

void encode\_gps()

{

  for (unsigned long start = millis(); millis() - start < 1000;)

  {

    while (gps\_port.available())

    {

      char a = gps\_port.read();

      if(gps.encode(a))

       {

        getgps(gps);

       }

    }

  }

}

void getgps(TinyGPS &gps)

{

 gps.f\_get\_position(&latitude, &longitude);

 print\_date(gps);

}

void init\_GSM()

{

  Serial.println("AT");

  delay(2000);

  Serial.println("AT+CMGF=1");

  delay(2000);

}

void adxl()

{

  xv = analogRead(x);

  yv = analogRead(y);

  zv = analogRead(z);

 if (Serial.available()>0)

   switch(Serial.read())

  {

    case 's':

    Accident\_sms();

    break;

  }

  // if (xv > 450 && yv > 450 )

  // {

   // Accident\_sms();

   //}

  // else if (xv > 450 && yv > 450 )

   //{

    //Accident\_sms();

   //}

  else

  {

  }

}

// void fire()

// {

//   fv=digitalRead(fr);

//   if(fv==HIGH)

//   {

//     Fire\_sms();

//   }

//   else

//   {

//     delay(10);

//   }

//   delay(100);

// }

static void print\_date(TinyGPS &gps)

{

  int year;

  byte month, day, hour, minute, second, hundredths;

  unsigned long age;

  gps.crack\_datetime(&year, &month, &day, &hour, &minute, &second, &hundredths, &age);

  if (age == TinyGPS::GPS\_INVALID\_AGE)

  {

  }

  else

  {

    sprintf(sz, "%02d/%02d/%02d %02d:%02d:%02d ",

        month, day, year, hour, minute, second);

  }

  delay(0);

}

// (xv<280) || (xv>380) || (yv<280) || (yv>380)