**CODE**

#include <avr/io.h>

#include <util/delay.h>

#include "lib/lcd/lcd.h"

#include "lib/sim300/sim300.h"

void Halt();

int main(void)

{

 //Initialize LCD Module

 LCDInit(LS\_NONE);

//Intro Message

 LCDWriteString("SIM300 Demo !");

 LCDWriteStringXY(0,1,"By Bhumika");

 \_delay\_ms(1000);

 LCDClear();

 //Initialize SIM300 module

 LCDWriteString("Initializing ...");

 int8\_t r= SIM300Init();

 \_delay\_ms(1000);

 //Check the status of initialization

 switch(r)

 {

 case SIM300\_OK:

 LCDWriteStringXY(0,1,"OK !");

 break;

 case SIM300\_TIMEOUT:

 LCDWriteStringXY(0,1,"No response");

 Halt();

 case SIM300\_INVALID\_RESPONSE:

 LCDWriteStringXY(0,1,"Inv response");

 Halt();

 case SIM300\_FAIL:

 LCDWriteStringXY(0,1,"Fail");

 Halt();

 default:

 LCDWriteStringXY(0,1,"Unknown Error");

 Halt();

 }

 \_delay\_ms(1000);

 //IMEI No display

 LCDClear();

 char imei[16];

 r=SIM300GetIMEI(imei);

 if(r==SIM300\_TIMEOUT)

 {

 LCDWriteString("Comm Error !");

 Halt();

 }

 LCDWriteString("Device IMEI:");

 LCDWriteStringXY(0,1,imei);

 \_delay\_ms(1000);

 //Manufacturer ID

 LCDClear();

 char man\_id[48];

 r=SIM300GetManufacturer(man\_id);

 if(r==SIM300\_TIMEOUT)

 {

 LCDWriteString("Comm Error !");

 Halt();

 }

 LCDWriteString("Manufacturer:");

 LCDWriteStringXY(0,1,man\_id);

 \_delay\_ms(1000);

 //Manufacturer ID

 LCDClear();

 char model[48];

 r=SIM300GetModel(model);

 if(r==SIM300\_TIMEOUT)

 {

 LCDWriteString("Comm Error !");

 Halt();

 }

 LCDWriteString("Model:");

 LCDWriteStringXY(0,1,model);

 \_delay\_ms(1000);

 //Check Sim Card Presence

 LCDClear();

 LCDWriteString("Checking SIMCard");

 \_delay\_ms(1000);

 r=SIM300IsSIMInserted();

 if (r==SIM300\_SIM\_NOT\_PRESENT)

 {

 //Sim card is NOT present

 LCDWriteStringXY(0,1,"No SIM Card !");

 Halt();

 }

 else if(r==SIM300\_TIMEOUT)

 {

 //Communication Error

 LCDWriteStringXY(0,1,"Comm Error !");

 Halt();

 }

 else if(r==SIM300\_SIM\_PRESENT)

 {

 //Sim card present

 LCDWriteStringXY(0,1,"SIM Card Present");

 \_delay\_ms(1000);

 }

 //Network search

 LCDClear();

 LCDWriteStringXY(0,0,"SearchingNetwork");

 uint8\_t nw\_found=0;

 uint16\_t tries=0;

 uint8\_t x=0;

 while(!nw\_found)

 {

 r=SIM300GetNetStat();

 if(r==SIM300\_NW\_SEARCHING)

 {

 LCDWriteStringXY(0,1,"%0%0%0%0%0%0%0%0%0%0%0%0%0%0%0%0");

 LCDWriteStringXY(x,1,"%1");

 LCDGotoXY(17,1);

 x++;

 if(x==16) x=0;

 \_delay\_ms(50);

 tries++;

 if(tries==600)

 break;

 }

 else

 break;

 }

 LCDClear();

 if(r==SIM300\_NW\_REGISTERED\_HOME)

 {

 LCDWriteString("Network Found");

 }

 else

 {

 LCDWriteString("Cant Connt to NW!");

 Halt();

 }

 \_delay\_ms(1000);

 LCDClear();

 //Show Provider Name

 char pname[32];

 r=SIM300GetProviderName(pname);

 if(r==0)

 {

 LCDWriteString("Comm Error !");

 Halt();

 }

 LCDWriteString(pname);

 \_delay\_ms(1000);

 //Send MSG

 LCDClear();

 LCDWriteString("Sending Msg");

 uint8\_t ref;

 r=SIM300SendMsg("+918559923771","Test",&ref); // can Change phone number

 if(r==SIM300\_OK)

 {

 LCDWriteStringXY(0,1,"Success");

 LCDWriteIntXY(9,1,ref,3);

 }

 else if(r==SIM300\_TIMEOUT)

 {

 LCDWriteStringXY(0,1,"Time out !");

 }

 else

 {

 LCDWriteStringXY(0,1,"Fail !");

 }

 \_delay\_ms(2000);

 //Wait for MSG

 uint8\_t id;

 UFlushBuffer();

 while(1)

 {

 LCDClear();

 LCDWriteStringXY(0,0,"Waiting for msg");

 x=0;

 int8\_t vx=1;

 while(SIM300WaitForMsg(&id)!=SIM300\_OK)

 {

 LCDWriteStringXY(0,1,"%0%0%0%0%0%0%0%0%0%0%0%0%0%0%0%0");

 LCDWriteStringXY(x,1,"%1");

 LCDGotoXY(17,1);

 x+=vx;

 if(x==15 || x==0) vx=vx\*-1;

 }

 LCDWriteStringXY(0,1,"MSG Received ");

 \_delay\_ms(1000);

 //Now read and display msg

 LCDClear();

 char msg[300];

 r=SIM300ReadMsg(id,msg);

 if(r==SIM300\_OK)

 {

 LCDWriteStringXY(0,0,msg);

 \_delay\_ms(3000);

 }

 else

 {

 LCDWriteString("Err Reading Msg !");

 \_delay\_ms(3000);

 }

 //Finally delete the msg

 if (SIM300DeleteMsg(id)!=SIM300\_OK)

 {

 LCDWriteString("Err Deleting Msg !");

 \_delay\_ms(3000);

 }

 }

 Halt();

}

void Halt()

{

while(1);

}