// Program for LCD Interfacing with 8051 Microcontroller (AT89S52)

#include<reg51.h>

#define display\_port P2      //Data pins connected to port 2 on microcontroller

sbit rs = P3^2;  //RS pin connected to pin 2 of port 3

sbit rw = P3^3;  // RW pin connected to pin 3 of port 3

sbit e =  P3^4;  //E pin connected to pin 4 of port 3

void msdelay(unsigned int time)  // Function for creating delay in milliseconds.

{

    unsigned i,j ;

    for(i=0;i<time;i++)    

    for(j=0;j<1275;j++);

}

void lcd\_cmd(unsigned char command)  //Function to send command instruction to LCD

{

    display\_port = command;

    rs= 0;

    rw=0;

    e=1;

    msdelay(1);

    e=0;

}

void lcd\_data(unsigned char disp\_data)  //Function to send display data to LCD

{

    display\_port = disp\_data;

    rs= 1;

    rw=0;

    e=1;

    msdelay(1);

    e=0;

}

 void lcd\_init()    //Function to prepare the LCD  and get it ready

{

    lcd\_cmd(0x38);  // for using 2 lines and 5X7 matrix of LCD

    msdelay(10);

    lcd\_cmd(0x0F);  // turn display ON, cursor blinking

    msdelay(10);

    lcd\_cmd(0x01);  //clear screen

    msdelay(10);

    lcd\_cmd(0x81);  // bring cursor to position 1 of line 1

    msdelay(10);

}

void main()

{

    unsigned char a[15]="CIRCUIT DIGEST";    //string of 14 characters with a null terminator.

    int l=0;

    lcd\_init();

    while(a[l] != '\0') // searching the null terminator in the sentence

    {

        lcd\_data(a[l]);

        l++;

        msdelay(50);

    }

}