1.Program to blink two led

//pin straight connect to ground other pen to port

#define led\_pin1 2

#define led\_pin2 8

void setup()

{

pinMode(led\_pin1,OUTPUT);

pinMode(led\_pin2,OUTPUT);

}

void loop()

{

digitalWrite(led\_pin1,HIGH);

digitalWrite(led\_pin2,LOW);

delay(1000);

digitalWrite(led\_pin2,HIGH);

digitalWrite(led\_pin1,LOW);

delay(1000);

}

2. Program to change the Intensity of LED

const int LED\_PIN = 5;// connect led to any PWM pin

void setup(){

pinMode( LED\_PIN, OUTPUT );

}

void loop(){

int i;

for(i=0;i<=255;i+=50)

{

analogWrite( LED\_PIN, i);

delay( 1500 );

}

if(i == 255)

i=0;

}

OR

const int LED\_PIN = 5;// connect led to any PWM pin

void setup(){

pinMode( LED\_PIN, OUTPUT );

}

void loop(){

int i=0;

while(i<=255)

{

analogWrite( LED\_PIN, i);

delay( 1500 );

i=i+100;

}

while(i>=0)

{

analogWrite( LED\_PIN, i);

delay( 1500 );

i=i-100;

}

}

3. Program to count 0-7 using LED

Void setup()

{

PinMode(13,OUTPUT);

PinMode(8,OUTPUT);

PinMode(2,OUTPUT);

}

void loop()

{

digitalWrite(13, LOW);

digitalWrite(8, LOW);

digitalWrite(2, LOW);

delay(1000);

digitalWrite(13, LOW);

digitalWrite(8, LOW);

digitalWrite(2, HIGH);

delay(1000);

digitalWrite(13, LOW);

digitalWrite(8, HIGH);

digitalWrite(2, LOW);

delay(1000);

digitalWrite(13, LOW);

digitalWrite(8, HIGH);

digitalWrite(2, HIGH);

delay(1000);

digitalWrite(13, HIGH);

digitalWrite(8, LOW);

digitalWrite(2, LOW);

delay(1000);

digitalWrite(13, HIGH);

digitalWrite(8, LOW);

digitalWrite(2, HIGH);

delay(1000);

digitalWrite(13, HIGH);

digitalWrite(8, HIGH);

digitalWrite(2, LOW);

delay(1000);

digitalWrite(13, HIGH);

digitalWrite(8, HIGH);

digitalWrite(2, HIGH);

delay(1000);

}

4. Program to blink alternate LED's.(min 5)

void setup()

{

pinMode(2,OUTPUT);

pinMode(7,OUTPUT);

pinMode(8,OUTPUT);

pinMode(12,OUTPUT);

pinMode(13,OUTPUT);

}

void loop()

{

digitalWrite(2, HIGH);

delay(100);

digitalWrite(2, LOW);

delay(100);

digitalWrite(7, HIGH);

delay(100);

digitalWrite(7, LOW);

delay(100);

digitalWrite(8, HIGH);

delay(100);

digitalWrite(8, LOW);

delay(100);

digitalWrite(12, HIGH);

delay(100);

digitalWrite(12, LOW);

delay(100);

digitalWrite(13, HIGH);

delay(100);

digitalWrite(13, LOW);

delay(100);

}

5.Program to display the status of the switch on led

#define ledPin 13

#define switchPin 7

int val=0;

void setup() {

pinMode(ledPin,OUTPUT);

pinMode(switchPin,INPUT);

}

void loop() {

val=digitalRead(switchPin);

//delay(1000);

if(val==HIGH)

digitalWrite(ledPin,LOW);

else

digitalWrite(ledPin,HIGH);

}

6. Program to display the switch status and blink Led according to the status of Switch.

#define ledPin 7 // choose the pin for the LED

#define switchPin 13 // choose the input pin (for a pushbutton)

int val = 0; // variable for reading the pin status

void setup()

{

pinMode(ledPin, OUTPUT); // declare LED as output

pinMode(switchPin, INPUT); // declare pushbutton as input

}

void loop()

{

val = digitalRead(switchPin); // read input value

Serial.println(val);

if (val == HIGH)

{ // check if the input is HIGH (button released)

digitalWrite(ledPin, HIGH); // turn LED OFF

}

else

{

digitalWrite(ledPin, LOW); // turn LED ON } }

}

}

6. Program to blink Led if switch is high else perform 2 bit up count.

#define ledPin1 8 // choose the pin for the LED

#define ledPin2 4

#define ledPin3 2

#define switchPin 7 // choose the input pin (for a pushbutton)

int val = 0; // variable for reading the pin status

void setup()

{

pinMode(ledPin1, OUTPUT); // declare LED as output

pinMode(ledPin2, OUTPUT);

pinMode(ledPin3, OUTPUT);

pinMode(switchPin, INPUT); // declare pushbutton as input

}

void loop()

{

val = digitalRead(switchPin); // read input value

if (val == HIGH)

{

digitalWrite(ledPin1, HIGH);

delay(1000);

digitalWrite(ledPin1, LOW);

delay(1000);// digitalWrite(ledPin2, HIGH); // turn LED OFF

} // check if the input is HIGH (button released)

else

{

digitalWrite(ledPin1, LOW);

digitalWrite(ledPin2, LOW);

digitalWrite(ledPin3, LOW);

delay(1000);

digitalWrite(ledPin2, LOW);

digitalWrite(ledPin3, HIGH);

delay(1000);

digitalWrite(ledPin2, HIGH);

digitalWrite(ledPin3, LOW);

delay(1000);

digitalWrite(ledPin2, HIGH);

digitalWrite(ledPin3, HIGH);

delay(1000);

}

}

7.Program to display the given message on the LCD with time delay

#include <LiquidCrystal.h>

const int rs=12,en=11,d4=5,d5=4,d6=3,d7=2;

LiquidCrystal lcd(rs,en,d4,d5,d6,d7);

void setup()

{

lcd.begin(16,2);

lcd.setCursor(0,0);

lcd.print("hello World");

}

void loop()

{

lcd.setCursor(0,1);

lcd.print(millis()/1000);

}

lcd.print("Avr LAb");

//lcd.print(millis()/1000);

delay(3000);

8.Program to display the message in rolling fashion from left to write

\*The circuit:

\* LCD RS pin to digital pin 12

\* LCD Enable pin to digital pin 11

\* LCD D4 pin to digital pin 5

\* LCD D5 pin to digital pin 4

\* LCD D6 pin to digital pin 3

\* LCD D7 pin to digital pin 2

\* LCD R/W pin to ground

\* LCD VSS pin to ground

\* LCD VCC pin to 5V

\*/

#include <LiquidCrystal.h>

const int rs = 12, en = 11, d4 = 5, d5 = 4, d6 = 3, d7 = 2;

LiquidCrystal lcd(rs, en, d4, d5, d6, d7);

void setup() {

lcd.begin(16, 2);

}

void loop()

{

lcd.setCursor(0, 0);

char str[10]=" ";

int i,j,pos,k=5,l;

char msg[6]="hello";

for(i=0;i<6;i++)

{

l=k;

pos=0;

for(j=i;j>=0;j--)

{

lcd.setCursor(pos, 0);

lcd.print(msg[l]);

pos++;

l++;

}

delay(1000);

k--;

}

lcd.setCursor(0, 0);

lcd.print(str);

delay(1000);

}

9.Program to display digits(0-9) from left to right on LCD.

Program to display digit in rolling fashion in LCD.

/\*The circuit:

\* LCD RS pin to digital pin 12

\* LCD Enable pin to digital pin 11

\* LCD D4 pin to digital pin 5

\* LCD D5 pin to digital pin 4

\* LCD D6 pin to digital pin 3

\* LCD D7 pin to digital pin 2

\* LCD R/W pin to ground

\* LCD VSS pin to ground

\* LCD VCC pin to 5V

\*/

#include <LiquidCrystal.h>

const int rs = 12, en = 11, d4 = 5, d5 = 4, d6 = 3, d7 = 2;

LiquidCrystal lcd(rs, en, d4, d5, d6, d7);

void setup()

{

lcd.begin(16, 2);

lcd.setCursor(0, 0);

//lcd.print("AVR Programming LAB");

}

void loop()

{

int i=0,k,pos;

char j,s1[10]=" ";

for(i=0;i<=9;i++)

{

pos=0;

for(k=i;k>=0;k--)

{

lcd.setCursor(pos,0);

lcd.print(k);

pos++;

}

delay(2000);

}

lcd.setCursor(0,0);

lcd.print(s1);

delay(1000);

}

10. Program to display the message alternatively in each line

#include <LiquidCrystal.h>

const int rs = 12, en = 11, d4 = 5, d5 = 4, d6 = 3, d7 = 2;

LiquidCrystal lcd(rs, en, d4, d5, d6, d7);

void setup() {

  lcd.begin(16, 2);

}

void loop()

{

char blank[16]={"             "};

lcd.setCursor(0, 0);

lcd.print("WELCOME TO");

delay(500);

lcd.setCursor(0, 0);

lcd.print(blank);

delay(500);

lcd.setCursor(0, 1);

lcd.print("AVR LAB   ");

delay(500);

lcd.setCursor(0, 1);

lcd.print(blank);

delay(500);

lcd.setCursor(0, 0);

lcd.print("AVR LAB   ");

delay(500);

lcd.setCursor(0, 0);

lcd.print(blank);

delay(500);

lcd.setCursor(0, 1);

lcd.print("WELCOME TO");

delay(500);

lcd.setCursor(0, 1);

lcd.print(blank);

delay(500);

}

11. Rotate the given message from left to right

#include <LiquidCrystal.h>

const int rs = 12, en = 11, d4 = 5, d5 = 4, d6 = 3, d7 = 2;

LiquidCrystal lcd(rs, en, d4, d5, d6, d7);

void setup()

{

lcd.begin(16, 2);

}

void loop()

{

lcd.setCursor(0, 0);

char str[10]="     ";

int i,j,pos,k=4,l;

char msg[6]={'h','e','l','l','o'};

for(i=0;i<5;i++)

{

l=k;

pos=0;

for(j=i;j>=0;j--)

{

lcd.setCursor(pos, 0);

lcd.print(msg[l]);

pos++;

l++;

}

delay(1000);

k--;

}

lcd.setCursor(0, 0);

lcd.print(str);

delay(1000);

}

12. Rotate the given message from right to left

#include <LiquidCrystal.h>

const int rs = 12, en = 11, d4 = 5, d5 = 4, d6 = 3, d7 = 2;

LiquidCrystal lcd(rs, en, d4, d5, d6, d7);

void setup()

{

lcd.begin(16, 2);

}

void loop()

{

lcd.setCursor(0, 0);

char str[10]="      ";

int i,j,pos,k=4,l;

char msg[6]={'h','e','l','l','o'};

for(i=0;i<5;i++)//number of lines

{

l=0;

pos=k;

for(j=i;j>=0;j--)//characters in each line

{

lcd.setCursor(pos, 0);

lcd.print(msg[l]);

pos++;

l++;

}

delay(500);

k--;

}

lcd.setCursor(0, 0);

lcd.print(str);

delay(1000);

}