

// C++ code

//

void setup()

{

pinMode(2, OUTPUT);

pinMode(3, OUTPUT);

pinMode(4, OUTPUT);

pinMode(5, OUTPUT);

pinMode(6, OUTPUT);

pinMode(7, OUTPUT);

pinMode(8, OUTPUT);

pinMode(9, OUTPUT);

pinMode(0, OUTPUT);

}

void loop()

{

digitalWrite(2, LOW);

digitalWrite(3, HIGH);

digitalWrite(4, HIGH);

digitalWrite(5, HIGH);

digitalWrite(6, HIGH);

digitalWrite(7, HIGH);

digitalWrite(8, HIGH);

digitalWrite(9, LOW);

delay(2000); // Wait for 2000 millisecond(s)

digitalWrite(2, LOW);

digitalWrite(3, HIGH);

digitalWrite(4, LOW);

digitalWrite(5, LOW);

digitalWrite(6, HIGH);

digitalWrite(7, LOW);

digitalWrite(8, LOW);

digitalWrite(9, LOW);

delay(2000); // Wait for 2000 millisecond(s)

digitalWrite(2, LOW);

digitalWrite(3, LOW);

digitalWrite(4, HIGH);

digitalWrite(5, HIGH);

digitalWrite(6, HIGH);

digitalWrite(7, HIGH);

digitalWrite(8, LOW);

digitalWrite(9, HIGH);

delay(2000); // Wait for 2000 millisecond(s)

digitalWrite(2, LOW);

digitalWrite(3, HIGH);

digitalWrite(4, HIGH);

digitalWrite(5, LOW);

digitalWrite(6, HIGH);

digitalWrite(7, HIGH);

digitalWrite(8, LOW);

digitalWrite(9, HIGH);

delay(2000); // Wait for 2000 millisecond(s)

digitalWrite(2, LOW);

digitalWrite(3, HIGH);

digitalWrite(4, LOW);

digitalWrite(5, LOW);

digitalWrite(6, HIGH);

digitalWrite(7, LOW);

digitalWrite(8, HIGH);

digitalWrite(9, HIGH);

delay(2000); // Wait for 2000 millisecond(s)

digitalWrite(2, LOW);

digitalWrite(3, HIGH);

digitalWrite(4, HIGH);

digitalWrite(5, LOW);

digitalWrite(6, LOW);

digitalWrite(7, HIGH);

digitalWrite(8, HIGH);

digitalWrite(9, HIGH);

delay(2000); // Wait for 2000 millisecond(s)

digitalWrite(2, LOW);

digitalWrite(3, HIGH);

digitalWrite(4, HIGH);

digitalWrite(5, HIGH);

digitalWrite(6, LOW);

digitalWrite(7, HIGH);

digitalWrite(8, HIGH);

digitalWrite(0, HIGH);

delay(1000); // Wait for 1000 millisecond(s)

digitalWrite(2, LOW);

digitalWrite(3, HIGH);

digitalWrite(4, LOW);

digitalWrite(5, LOW);

digitalWrite(6, HIGH);

digitalWrite(7, HIGH);

digitalWrite(8, LOW);

digitalWrite(9, LOW);

delay(2000); // Wait for 2000 millisecond(s)

digitalWrite(2, LOW);

digitalWrite(3, HIGH);

digitalWrite(4, HIGH);

digitalWrite(5, HIGH);

digitalWrite(6, HIGH);

digitalWrite(7, HIGH);

digitalWrite(8, HIGH);

digitalWrite(9, HIGH);

delay(2000); // Wait for 2000 millisecond(s)

digitalWrite(2, LOW);

digitalWrite(3, HIGH);

digitalWrite(4, HIGH);

digitalWrite(5, LOW);

digitalWrite(6, HIGH);

digitalWrite(7, HIGH);

digitalWrite(8, HIGH);

digitalWrite(9, HIGH);

delay(2000); // Wait for 2000 millisecond(s)

digitalWrite(2, HIGH);

digitalWrite(3, LOW);

digitalWrite(4, LOW);

digitalWrite(5, LOW);

digitalWrite(6, LOW);

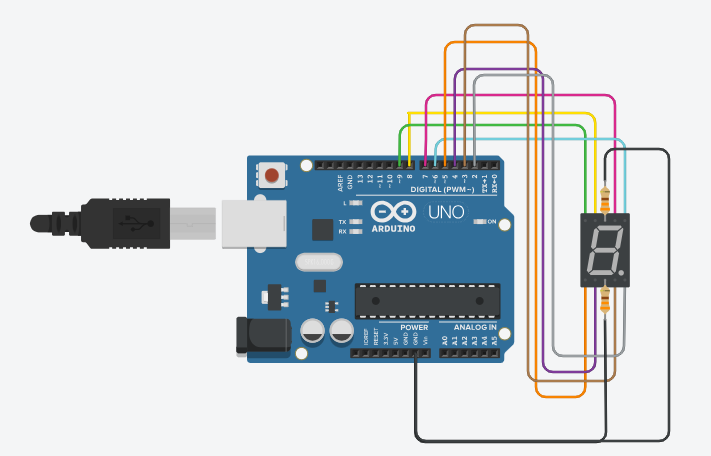
digitalWrite(7, LOW);

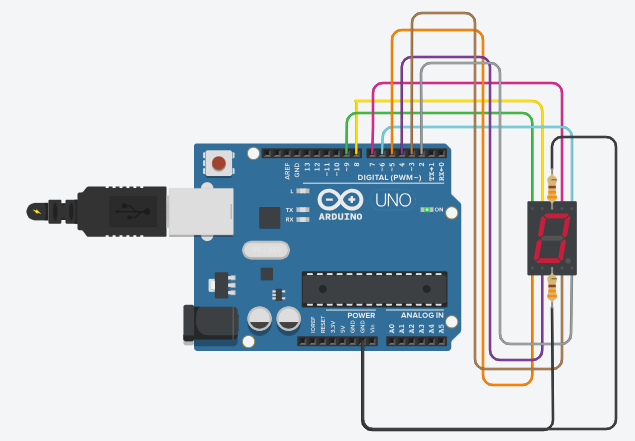
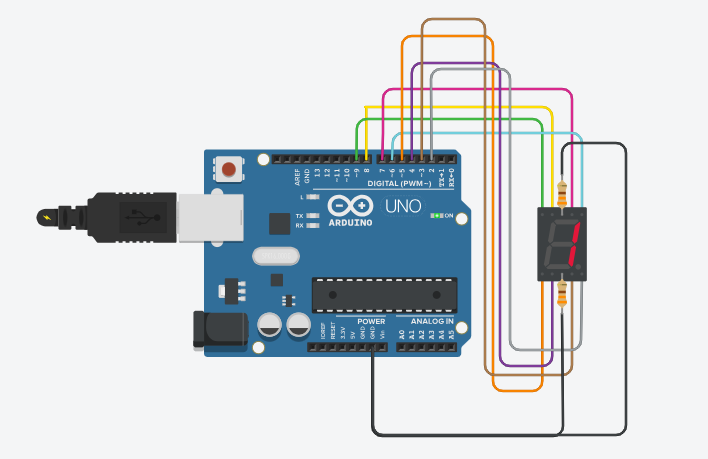
digitalWrite(8, LOW);

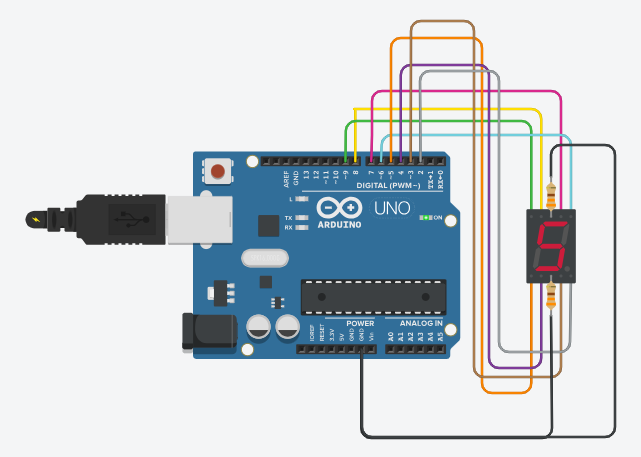
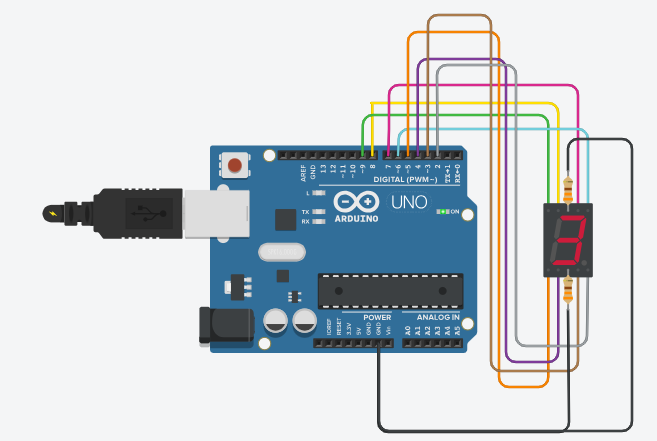
digitalWrite(9, LOW);

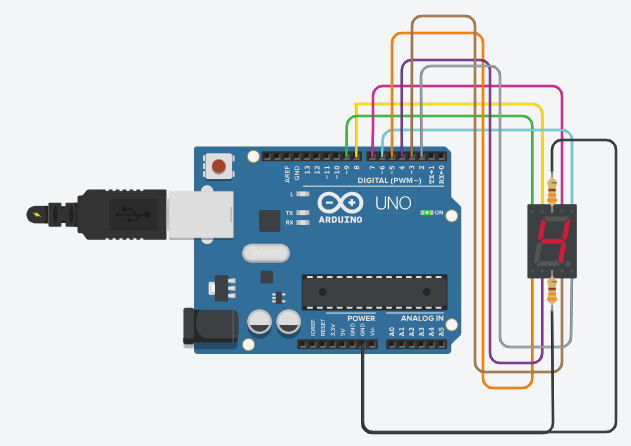
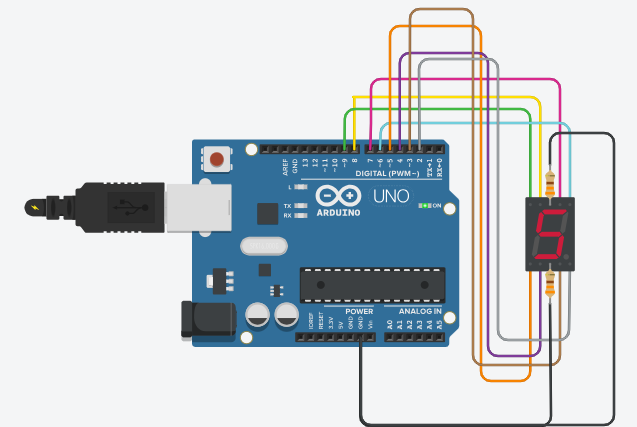
delay(2000); // Wait for 2000 millisecond(s)

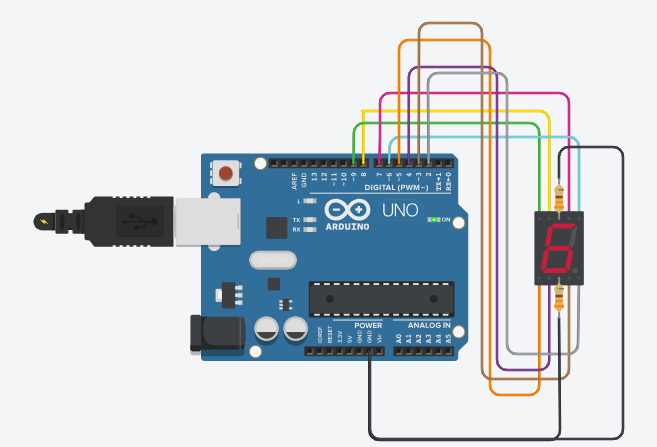
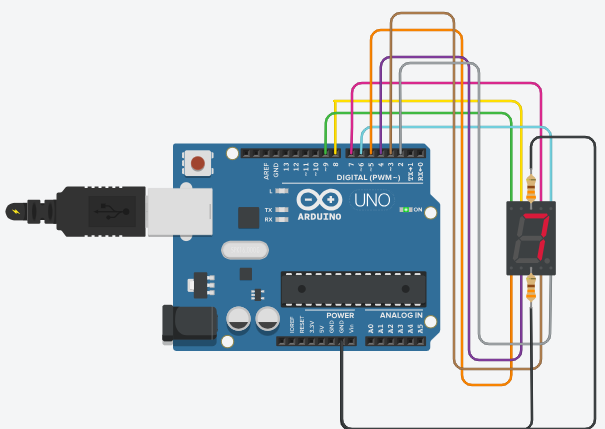
}

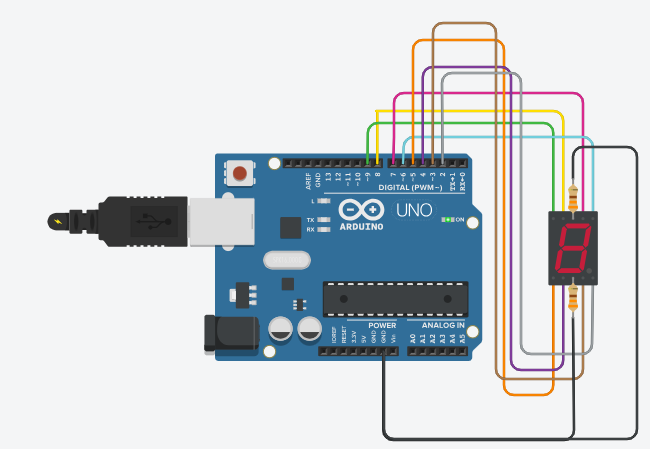
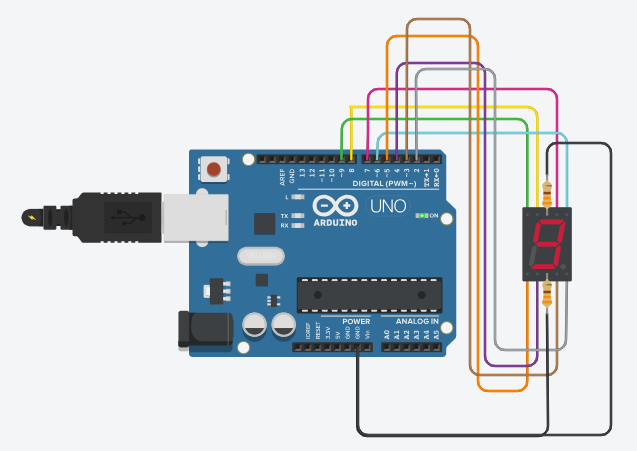


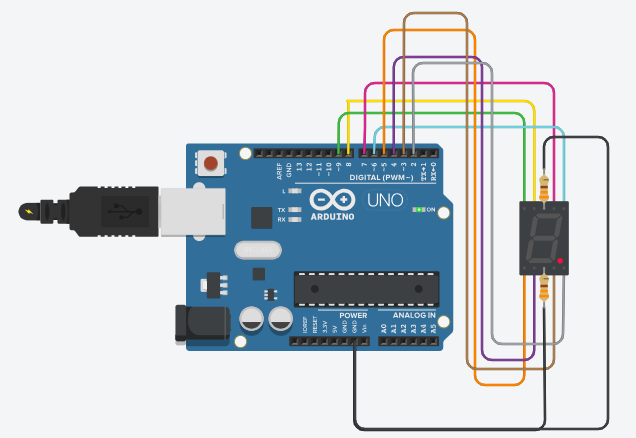
 



.include "m328pdef.inc"

// Define constants for port addresses

.equ SEG\_PORT = PORTD

.equ DELAY = 2000 // Delay in milliseconds

.global main

main:

; Initialize port D for output

ldi r16, 0xFF

out SEG\_PORT, r16

loop:

; Display '1'

ldi r16, 0b11111100

out SEG\_PORT, r16

call delay\_ms

out SEG\_PORT, r16

call delay\_ms

; Display '2'

ldi r16, 0b01100000

out SEG\_PORT, r16

call delay\_ms

out SEG\_PORT, r16

call delay\_ms

; Display '3'

ldi r16, 0b11011010

out SEG\_PORT, r16

call delay\_ms

out SEG\_PORT, r16

call delay\_ms

; Add code for displaying other digits

rjmp loop

delay\_ms:

ldi r18, 250 ; Initialize outer loop counter

outer\_loop:

ldi r17, 184 ; Initialize inner loop counter

inner\_loop:

dec r17

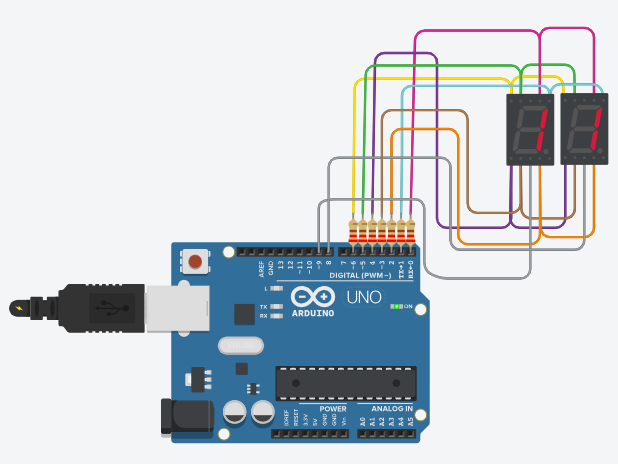
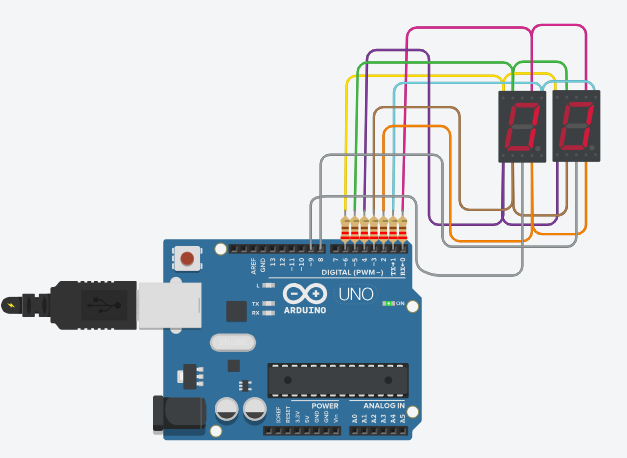
brne inner\_loop

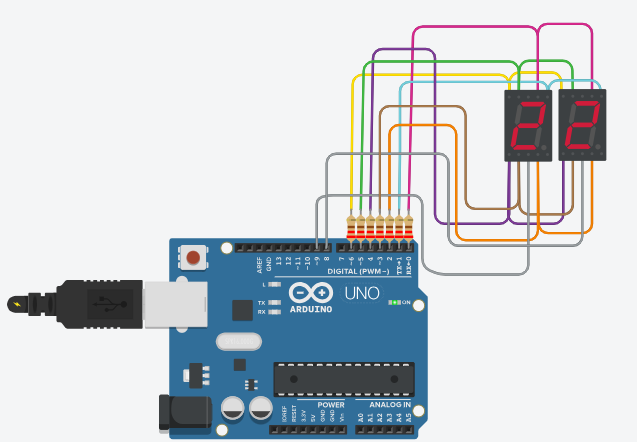
dec r18

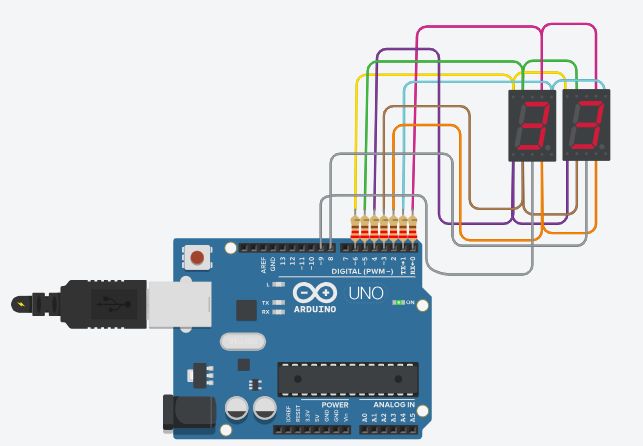
brne outer\_loop

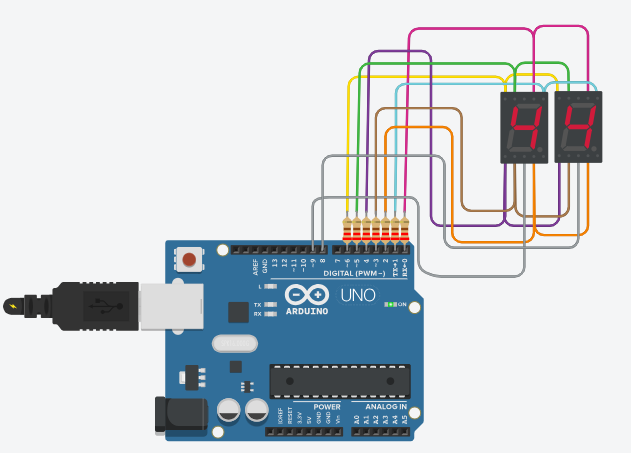
ret

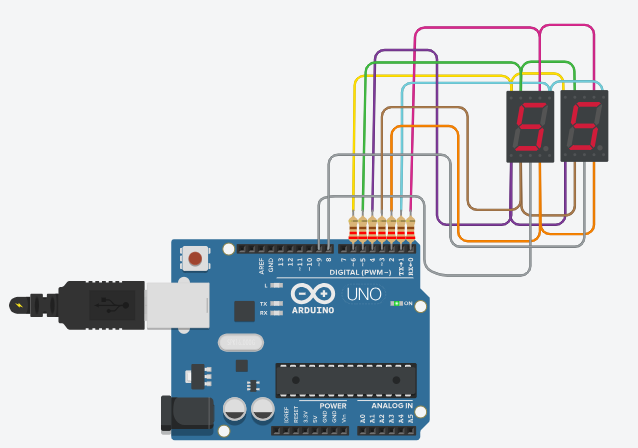
.end

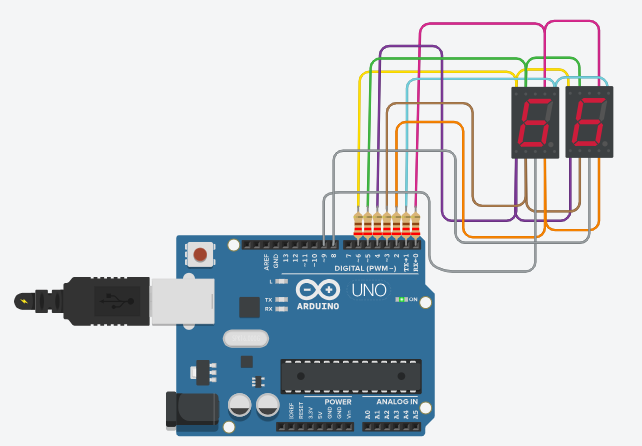


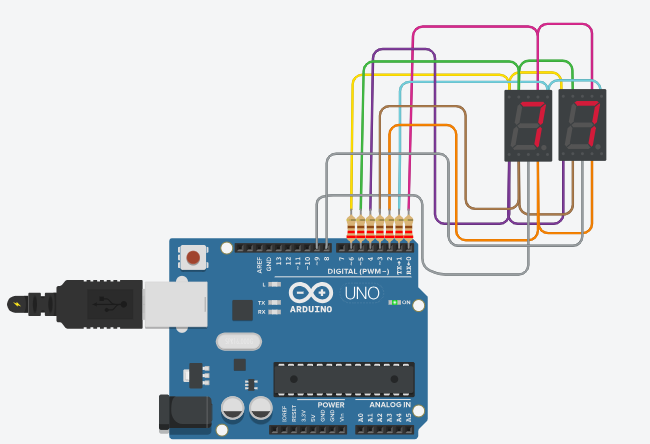


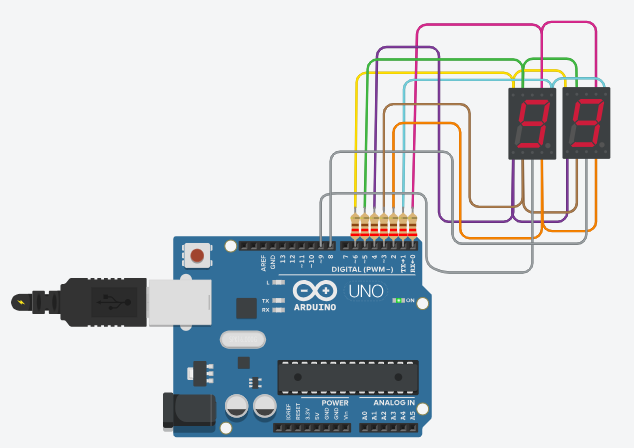
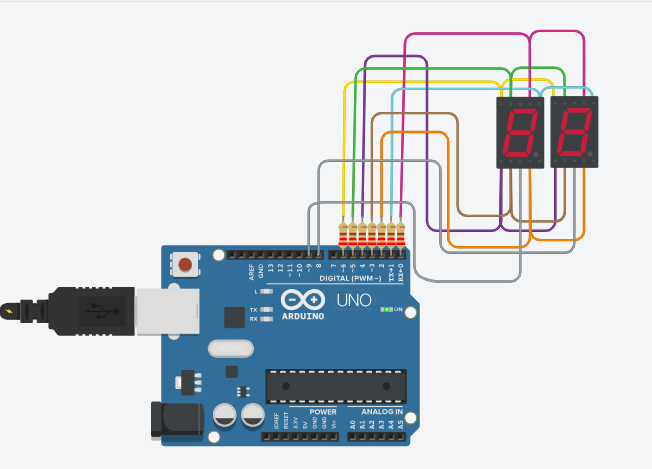












//Pin for 7 segment

char A=0,B=1,C=2,D=3,E=4,F=5,G=6;

//Digit

char digit1=9;

char digit2=8;

char myNumber[10] = {

0b0111111, //0

0b0000110, //1

0b1011011, //2

0b1001111, //3

0b1100110, //4

0b1101101, //5

0b1111101, //6

0b0000111, //7

0b1111111, //8

0b1101111 //9

};

void setup(){

pinMode(A,OUTPUT);

pinMode(B,OUTPUT);

pinMode(C,OUTPUT);

pinMode(D,OUTPUT);

pinMode(E,OUTPUT);

pinMode(F,OUTPUT);

pinMode(G,OUTPUT);

pinMode(digit1,OUTPUT);

pinMode(digit2,OUTPUT);

}

int count=0;

void loop() {

// Display "0" on the right display (digit2)

digitalWrite(digit1, 0);

digitalWrite(digit2, 0);

number(myNumber[count]);

delay(1000);

count++;

if(count==10){

count=0;

}

}

void number(int num){

digitalWrite(A,num & 0b0000001);

digitalWrite(B,num & 0b0000010);

digitalWrite(C,num & 0b0000100);

digitalWrite(D,num & 0b0001000);

digitalWrite(E,num & 0b0010000);

digitalWrite(F,num & 0b0100000);

digitalWrite(G,num & 0b1000000);

}

#define A 0

#define B 1

#define C 2

#define D 3

#define E 4

#define F 5

#define G 6

#define DIGIT1 9

#define DIGIT2 8

.data

myNumber: .byte 0b0111111, 0b0000110, 0b1011011, 0b1001111, 0b1100110, 0b1101101, 0b1111101, 0b0000111, 0b1111111, 0b1101111

.text

.global main

main:

ldi count, 0 ; Initialize count to 0

loop:

; Display "0" on the right display (digit2)

ldi r16, LOW(DIGIT1)

out PORTB, r16 ; Set digit1 pin low

ldi r16, 0x00 ; Clear display

out PORTA, r16 ; Set all segment pins low

ldi r16, myNumber

add r16, count

ld r17, X

out PORTA, r17 ; Display the current number

ldi r16, 0x01 ; Set digit2 pin high

out PORTB, r16

; Delay

ldi r16, 250

ldi r17, 5

delay\_loop:

dec r17

brne delay\_loop

dec r16

brne delay\_loop

; Increment count

inc count

cpi count, 10

breq reset\_count

; Repeat the loop

rjmp loop

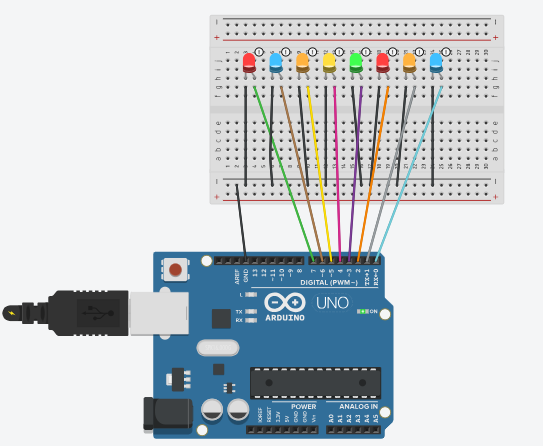
reset\_count:

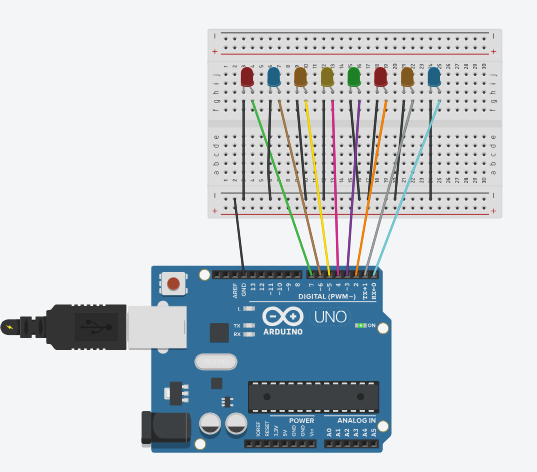
ldi count, 0

; Repeat the loop

rjmp loop

Perform Rotation operation





// C++ code

//

void setup()

{

pinMode(7, OUTPUT);

pinMode(6, OUTPUT);

pinMode(5, OUTPUT);

pinMode(4, OUTPUT);

pinMode(3, OUTPUT);

pinMode(2, OUTPUT);

pinMode(1, OUTPUT);

pinMode(0, OUTPUT);

}

void loop()

{

digitalWrite(7, HIGH);

digitalWrite(6, HIGH);

digitalWrite(5, HIGH);

digitalWrite(4, HIGH);

digitalWrite(3, HIGH);

digitalWrite(2, HIGH);

digitalWrite(1, HIGH);

digitalWrite(0, HIGH);

delay(1000); // Wait for 1000 millisecond(s)

digitalWrite(7, LOW);

digitalWrite(6, LOW);

digitalWrite(5, LOW);

digitalWrite(4, LOW);

digitalWrite(3, LOW);

digitalWrite(2, LOW);

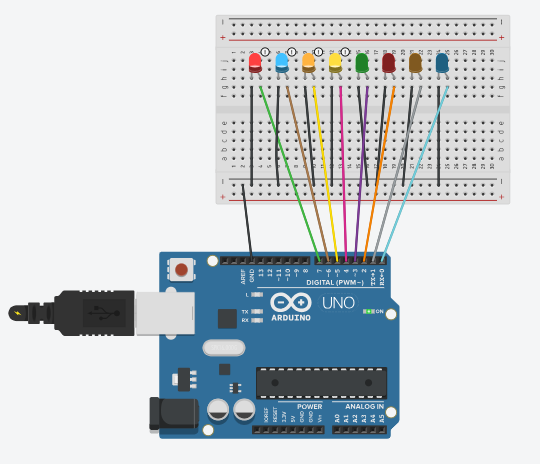
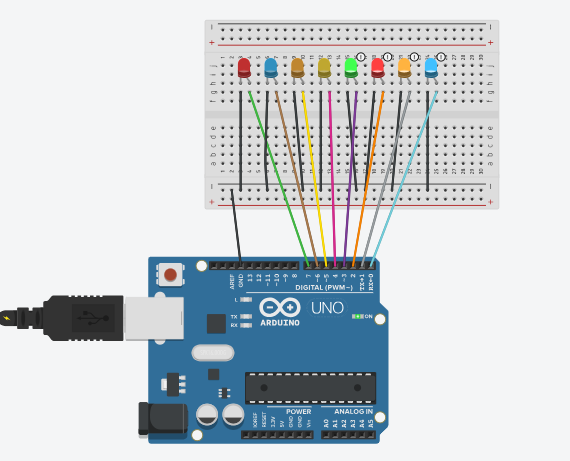
digitalWrite(1, LOW);

digitalWrite(0, LOW);

delay(1000); // Wait for 1000 millisecond(s)

}

2. Perform four on and off



// C++ code

//

void setup()

{

pinMode(7, OUTPUT);

pinMode(6, OUTPUT);

pinMode(5, OUTPUT);

pinMode(4, OUTPUT);

pinMode(3, OUTPUT);

pinMode(2, OUTPUT);

pinMode(1, OUTPUT);

pinMode(0, OUTPUT);

}

void loop()

{

digitalWrite(7, HIGH);

digitalWrite(6, HIGH);

digitalWrite(5, HIGH);

digitalWrite(4, HIGH);

digitalWrite(3, LOW);

digitalWrite(2, LOW);

digitalWrite(1, LOW);

digitalWrite(0, LOW);

delay(1000); // Wait for 1000 millisecond(s)

digitalWrite(7, LOW);

digitalWrite(6, LOW);

digitalWrite(5, LOW);

digitalWrite(4, LOW);

digitalWrite(3, HIGH);

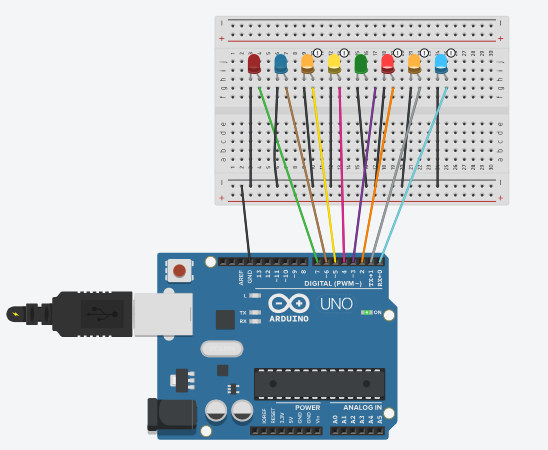
digitalWrite(2, HIGH);

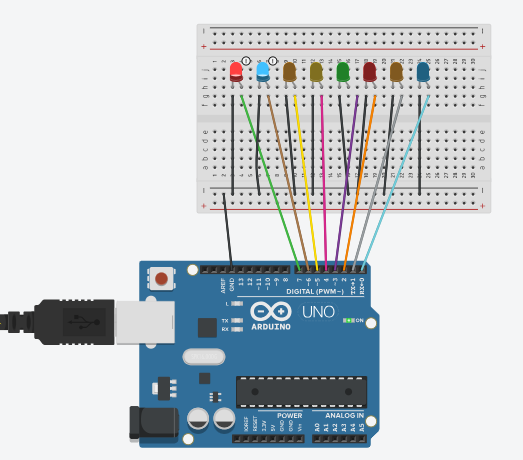
digitalWrite(1, HIGH);

digitalWrite(0, HIGH);

delay(1000); // Wait for 1000 millisecond(s)

}





// C++ code

//

void setup()

{

pinMode(7, OUTPUT);

pinMode(6, OUTPUT);

pinMode(5, OUTPUT);

pinMode(4, OUTPUT);

pinMode(3, OUTPUT);

pinMode(2, OUTPUT);

pinMode(1, OUTPUT);

pinMode(0, OUTPUT);

}

void loop()

{

digitalWrite(7, HIGH);

digitalWrite(6, HIGH);

digitalWrite(5, LOW);

digitalWrite(4, LOW);

digitalWrite(3, LOW);

digitalWrite(2, LOW);

digitalWrite(1, LOW);

digitalWrite(0, LOW);

delay(1000); // Wait for 1000 millisecond(s)

digitalWrite(7, LOW);

digitalWrite(6, LOW);

digitalWrite(5, HIGH);

digitalWrite(4, HIGH);

digitalWrite(3, HIGH);

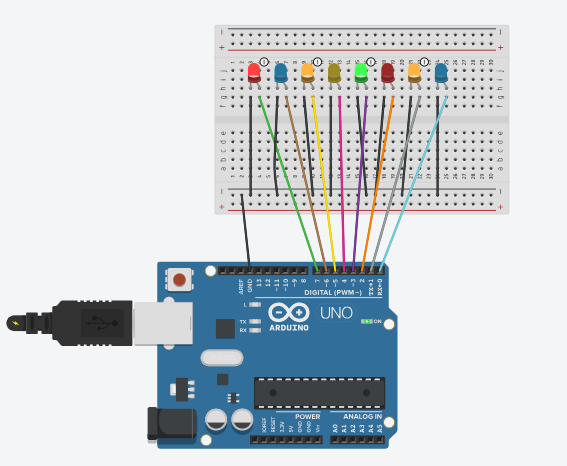
digitalWrite(2, HIGH);

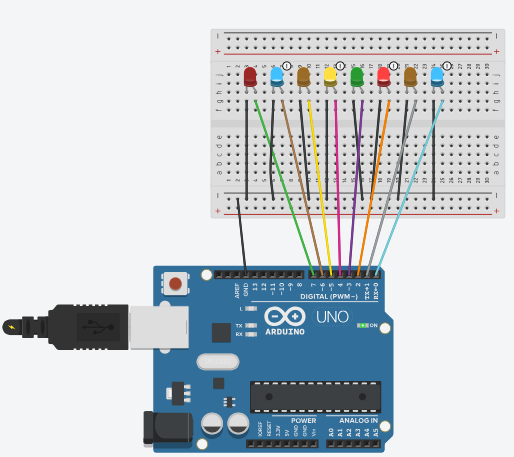
digitalWrite(1, HIGH);

digitalWrite(0, HIGH);

delay(1000); // Wait for 1000 millisecond(s)

}





// C++ code

//

void setup()

{

pinMode(7, OUTPUT);

pinMode(6, OUTPUT);

pinMode(5, OUTPUT);

pinMode(4, OUTPUT);

pinMode(3, OUTPUT);

pinMode(2, OUTPUT);

pinMode(1, OUTPUT);

pinMode(0, OUTPUT);

}

void loop()

{

digitalWrite(7, HIGH);

digitalWrite(6, LOW);

digitalWrite(5,HIGH);

digitalWrite(4, LOW);

digitalWrite(3, HIGH);

digitalWrite(2, LOW);

digitalWrite(1, HIGH);

digitalWrite(0, LOW);

delay(1000); // Wait for 1000 millisecond(s)

digitalWrite(7, LOW);

digitalWrite(6, HIGH);

digitalWrite(5, LOW);

digitalWrite(4,HIGH);

digitalWrite(3, LOW);

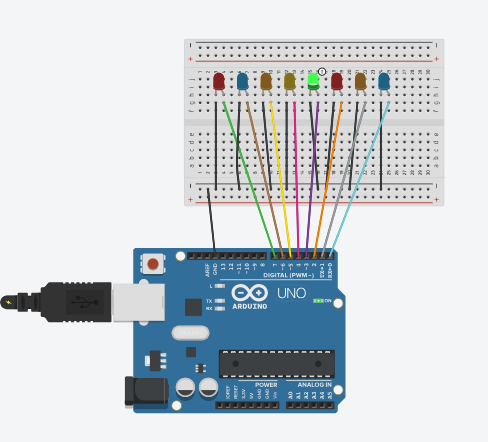
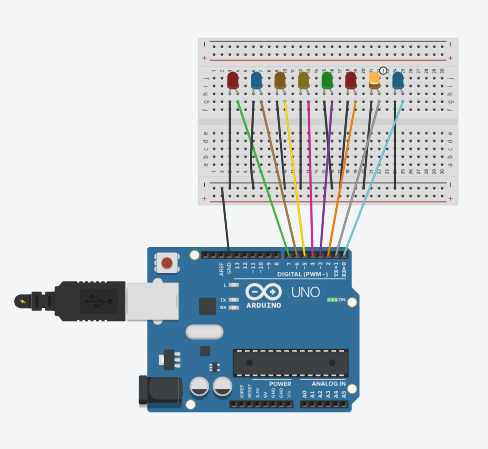
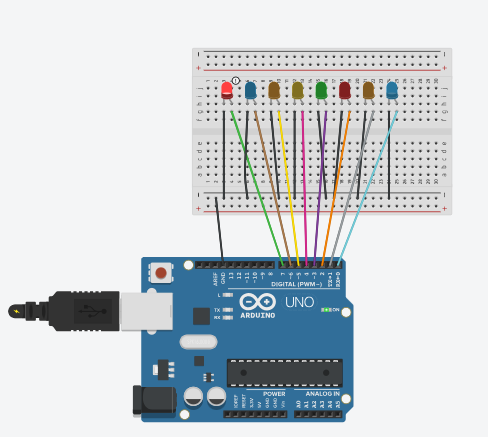
digitalWrite(2, HIGH);

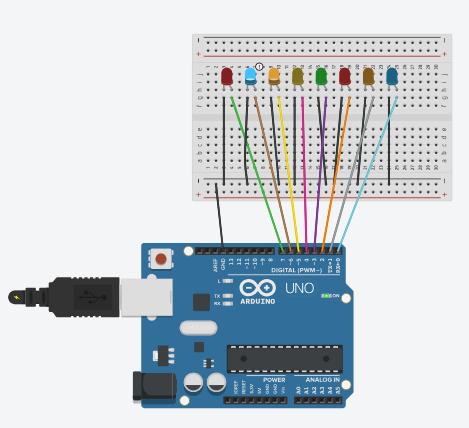
digitalWrite(1, LOW);

digitalWrite(0, HIGH);

delay(1000); // Wait for 1000 millisecond(s)

}





int pins[] = {7, 6, 5, 4, 3, 2, 1, 0};

int numPins = sizeof(pins) / sizeof(pins[0]);

int currentIndex = 0;

void setup() {

for (int i = 0; i < numPins; i++) {

pinMode(pins[i], OUTPUT);

}

}

void loop() {

digitalWrite(pins[currentIndex], HIGH);

delay(1000);

digitalWrite(pins[currentIndex], LOW);

currentIndex = (currentIndex + 1) % numPins;

}