void serially(); //function prototype

void lightUp(); //function prototype

void lightDown(); //function prototype

void blink\_blink();//function prototype

void allFunc();//function prototype

void upDownFunc();//function prototype

void turnOffAll();//function prototype

void setup() { //void setup start

pinMode(13, INPUT); // pin 13 for input

pinMode(12, OUTPUT);// pin 12 for input

pinMode(11, OUTPUT);// pin 11 for input

pinMode(10, OUTPUT);// pin 10 for input

pinMode(9, OUTPUT);// pin 9 for input

pinMode(8, OUTPUT);// pin 8 for input

pinMode(7, OUTPUT);// pin 7 for input

pinMode(6, OUTPUT);// pin 6 for input

pinMode(5, OUTPUT);// pin 5 for input

pinMode(4, OUTPUT);// pin 4 for input

pinMode(3, OUTPUT);// pin 3 for input

pinMode(2, OUTPUT);// pin 2 for input

pinMode(1, OUTPUT);// pin 1 for input

pinMode(0, INPUT);// pin 0 for input

} //void setup end

void loop() { //void loop start

int Switch = digitalRead(13); // system switch input

int Func = digitalRead(0); // functionallity changing switch

if (Switch == HIGH) { // if system switch ON

if (Func == HIGH) { //if functionallity changing switch is ON, show up/down lighting functionality

upDownFunc(); // calling function to show a lighting functionality

}

else {// else, show 2nd lighting functionality

allFunc(); // calling function to show a lighting functionality

}

}

else { // if system switch Off

turnOffAll();

}

} //void loop end

void allFunc() { //allFunc start

blink\_blink();

lightUp();

lightDown();

blink\_blink();

serially();

blink\_blink();

} //allFunc end

void upDownFunc() { //upDownFunc start

lightUp();

lightDown();

} //upDownFunc end

void blink\_blink() {

delay(200);

for (int i = 0; i < 2; i++) {

digitalWrite(12, HIGH);

digitalWrite(11, HIGH);

digitalWrite(10, HIGH);

digitalWrite(9, HIGH);

digitalWrite(8, HIGH);

digitalWrite(7, HIGH);

digitalWrite(6, HIGH);

digitalWrite(5, HIGH);

digitalWrite(4, HIGH);

digitalWrite(3, HIGH);

digitalWrite(2, HIGH);

digitalWrite(1, HIGH);

delay(200);

digitalWrite(12, LOW);

digitalWrite(11, LOW);

digitalWrite(10, LOW);

digitalWrite(9, LOW);

digitalWrite(8, LOW);

digitalWrite(7, LOW);

digitalWrite(6, LOW);

digitalWrite(5, LOW);

digitalWrite(4, LOW);

digitalWrite(3, LOW);

digitalWrite(2, LOW);

digitalWrite(1, LOW);

delay(200);

}

delay(200);

}

void lightUp() {

for (int i = 1; i < 13; i++)

{

digitalWrite(i, HIGH);

delay(100);

}

for (int i = 12; i > 0; i--)

{

digitalWrite(i, LOW);

delay(100);

}

}

void lightDown() {

for (int i = 12; i > 0; i--)

{

digitalWrite(i, HIGH);

delay(100);

}

for (int i = 1; i < 13; i++)

{

digitalWrite(i, LOW);

delay(100);

}

}

void serially() {

delay(120);

for (int i = 1 ; i < 13; i++)

{

digitalWrite(i, HIGH);

digitalWrite(13 - i, HIGH);

delay(150);

digitalWrite(i, LOW);

digitalWrite(13 - i, LOW);

}

delay(120);

}

void turnOffAll() {

digitalWrite(12, LOW);

digitalWrite(11, LOW);

digitalWrite(10, LOW);

digitalWrite(9, LOW);

digitalWrite(8, LOW);

digitalWrite(7, LOW);

digitalWrite(6, LOW);

digitalWrite(5, LOW);

digitalWrite(4, LOW);

digitalWrite(3, LOW);

digitalWrite(2, LOW);

digitalWrite(1, LOW);

}