//display 0,1,2,3,4,5,6,7,8,9

byte digits[ ] = {

B01111110, B00110000, B01101101, B01111001, B00110011, B01011011,

B01011111, B01110000, B01111111, B01111011

};

const int sh1=26;//Pin connected to ST\_CP2 of 74HC595

const int ds1=27;//Pin connected to SH\_CP2 of 74HC595

const int st1= 28;

//Pin connected to DS2 of 74HC595

//display //0,1,2,3,4,5,6,7,8,9

const int sh3=33;//Pin connected to ST\_CP2 of 74HC595

const int ds3=34;//Pin connected to SH\_CP2 of 74HC595

const int st3= 35;

//Pin connected to DS2 of 74HC595

//display

//0,1,2,3,4,5,6,7,8,9

const int sh5=40;//Pin connected to ST\_CP2 of 74HC595

const int ds5=41;//Pin connected to SH\_CP2 of 74HC595

const int st5= 42;

//Pin connected to DS2 of 74HC595

//display

//0,1,2,3,4,5,6,7,8,9

const int sh7=47;//Pin connected to ST\_CP2 of 74HC595

const int ds7=48;//Pin connected to SH\_CP2 of 74HC595

const int st7= 49; //Pin connected to DS2 of 74HC595

//for channel-1

int g1 = 24 ;

int y1= 23 ;

int r1 = 22;

int cp1= 25 ;

int r2=29;

int y2=30;

int g2=31;

int cp2=32;

//for channel-2

int g3 =38 ;

int y3=37;

int r3 = 36;

int cp3 =39;

int r4=43;

int y4=44;

int g4=45;

int cp4=46;

//for default mode

int Defaultbutton=50 ;

//pin mode declaration

void setup()

{

pinMode (g1 ,OUTPUT );

pinMode (y1 ,OUTPUT );

pinMode (r1 ,OUTPUT );

pinMode (cp1 ,OUTPUT );

pinMode (sh1,OUTPUT );

pinMode (st1 , OUTPUT);

pinMode (ds1 , OUTPUT);

pinMode (cp2 ,OUTPUT );

pinMode (g2 ,OUTPUT );

pinMode (y2 ,OUTPUT );

pinMode (r2 ,OUTPUT );

pinMode (r3 , OUTPUT);

pinMode (y3 , OUTPUT);

pinMode (g3 , OUTPUT);

pinMode (cp3 , OUTPUT);

pinMode (sh3 , OUTPUT);

pinMode (st3 , OUTPUT);

pinMode (ds3 , OUTPUT);

pinMode (r4 , OUTPUT);

pinMode ( y4, OUTPUT);

pinMode (g4 , OUTPUT);

pinMode (cp4 , OUTPUT);

pinMode (sh5, OUTPUT);

pinMode (st5 , OUTPUT);

pinMode (ds5 , OUTPUT);

pinMode ( sh7, OUTPUT);

pinMode (st7 , OUTPUT);

pinMode (ds7 , OUTPUT);

pinMode (Defaultbutton , INPUT);

// pinMode ( , OUTPUT);

}

int times=250;

void countdown1()

{

digitalWrite(st1, LOW);

shiftOut(ds1, sh1, MSBFIRST, digits[0]);

shiftOut(ds1, sh1, MSBFIRST, digits[4]);

digitalWrite(st1, HIGH);

digitalWrite(st5, LOW);

shiftOut(ds5, sh5, MSBFIRST, digits[0]);

shiftOut(ds5, sh5, MSBFIRST, digits[3]);

digitalWrite(st5, HIGH);

delay(times);

digitalWrite(st1, LOW);

shiftOut(ds1, sh1, MSBFIRST, digits[0]);

shiftOut(ds1, sh1, MSBFIRST, digits[3]);

digitalWrite(st1, HIGH);

digitalWrite(st5, LOW);

shiftOut(ds5, sh5, MSBFIRST, digits[0]);

shiftOut(ds5, sh5, MSBFIRST, digits[2]);

digitalWrite(st5, HIGH);

delay(times);

digitalWrite(st1, LOW);

shiftOut(ds1, sh1, MSBFIRST, digits[0]);

shiftOut(ds1, sh1, MSBFIRST, digits[2]);

digitalWrite(st1, HIGH);

digitalWrite(st5, LOW);

shiftOut(ds5, sh5, MSBFIRST, digits[0]);

shiftOut(ds5, sh5, MSBFIRST, digits[1]);

digitalWrite(st5, HIGH);

delay(times);

digitalWrite(st1, LOW);

shiftOut(ds1, sh1, MSBFIRST, digits[0]);

shiftOut(ds1, sh1, MSBFIRST, digits[1]);

digitalWrite(st1, HIGH);

digitalWrite(st5, LOW);

shiftOut(ds5, sh5, MSBFIRST, digits[0]);

shiftOut(ds5, sh5, MSBFIRST, digits[0]);

digitalWrite(st5, HIGH);

delay(times);

}

void countdown2()

{

digitalWrite(st1, LOW);

shiftOut(ds1, sh1, MSBFIRST, digits[1]);

shiftOut(ds1, sh1, MSBFIRST, digits[5]);

digitalWrite(st1, HIGH);

digitalWrite(st5, LOW);

shiftOut(ds5, sh5, MSBFIRST, digits[0]);

shiftOut(ds5, sh5, MSBFIRST, digits[8]);

digitalWrite(st5, HIGH);

delay(times);

digitalWrite(st1, LOW);

shiftOut(ds1, sh1, MSBFIRST, digits[1]);

shiftOut(ds1, sh1, MSBFIRST, digits[4]);

digitalWrite(st1, HIGH);

digitalWrite(st5, LOW);

shiftOut(ds5, sh5, MSBFIRST, digits[0]);

shiftOut(ds5, sh5, MSBFIRST, digits[7]);

digitalWrite(st5, HIGH);

delay(times);

digitalWrite(st1, LOW);

shiftOut(ds1, sh1, MSBFIRST, digits[1]);

shiftOut(ds1, sh1, MSBFIRST, digits[3]);

digitalWrite(st1, HIGH);

digitalWrite(st5, LOW);

shiftOut(ds5, sh5, MSBFIRST, digits[0]);

shiftOut(ds5, sh5, MSBFIRST, digits[6]);

digitalWrite(st5, HIGH);

delay(times);

digitalWrite(st1, LOW);

shiftOut(ds1, sh1, MSBFIRST, digits[1]);

shiftOut(ds1, sh1, MSBFIRST, digits[2]);

digitalWrite(st1, HIGH);

digitalWrite(st5, LOW);

shiftOut(ds5, sh5, MSBFIRST, digits[0]);

shiftOut(ds5, sh5, MSBFIRST, digits[5]);

digitalWrite(st5, HIGH);

delay(times);

digitalWrite(st1, LOW);

shiftOut(ds1, sh1, MSBFIRST, digits[1]);

shiftOut(ds1, sh1, MSBFIRST, digits[1]);

digitalWrite(st1, HIGH);

digitalWrite(st5, LOW);

shiftOut(ds5, sh5, MSBFIRST, digits[0]);

shiftOut(ds5, sh5, MSBFIRST, digits[4]);

digitalWrite(st5, HIGH);

delay(times);

digitalWrite(st1, LOW);

shiftOut(ds1, sh1, MSBFIRST, digits[1]);

shiftOut(ds1, sh1, MSBFIRST, digits[0]);

digitalWrite(st1, HIGH);

digitalWrite(st5, LOW);

shiftOut(ds5, sh5, MSBFIRST, digits[0]);

shiftOut(ds5, sh5, MSBFIRST, digits[3]);

digitalWrite(st5, HIGH);

delay(times);

digitalWrite(st1, LOW);

shiftOut(ds1, sh1, MSBFIRST, digits[0]);

shiftOut(ds1, sh1, MSBFIRST, digits[9]);

digitalWrite(st1, HIGH);

digitalWrite(st5, LOW);

shiftOut(ds5, sh5, MSBFIRST, digits[0]);

shiftOut(ds5, sh5, MSBFIRST, digits[2]);

digitalWrite(st5, HIGH);

delay(times);

digitalWrite(st1, LOW);

shiftOut(ds1, sh1, MSBFIRST, digits[0]);

shiftOut(ds1, sh1, MSBFIRST, digits[8]);

digitalWrite(st1, HIGH);

digitalWrite(st5, LOW);

shiftOut(ds5, sh5, MSBFIRST, digits[0]);

shiftOut(ds5, sh5, MSBFIRST, digits[1]);

digitalWrite(st5, HIGH);

delay(times);

digitalWrite(st1, LOW);

shiftOut(ds1, sh1, MSBFIRST, digits[0]);

shiftOut(ds1, sh1, MSBFIRST, digits[7]);

digitalWrite(st1, HIGH);

digitalWrite(st5, LOW);

shiftOut(ds5, sh5, MSBFIRST, digits[0]);

shiftOut(ds5, sh5, MSBFIRST, digits[0]);

digitalWrite(st5, HIGH);

delay(times);

}

void countdown3()

{

digitalWrite(st1, LOW);

shiftOut(ds1, sh1, MSBFIRST, digits[0]);

shiftOut(ds1, sh1, MSBFIRST, digits[6]);

digitalWrite(st1, HIGH);

digitalWrite(st5, LOW);

shiftOut(ds5, sh5, MSBFIRST, digits[0]);

shiftOut(ds5, sh5, MSBFIRST, digits[3]);

digitalWrite(st5, HIGH);

delay(times);

digitalWrite(st1, LOW);

shiftOut(ds1, sh1, MSBFIRST, digits[0]);

shiftOut(ds1, sh1, MSBFIRST, digits[5]);

digitalWrite(st1, HIGH);

digitalWrite(st5, LOW);

shiftOut(ds5, sh5, MSBFIRST, digits[0]);

shiftOut(ds5, sh5, MSBFIRST, digits[2]);

digitalWrite(st5, HIGH);

delay(times);

digitalWrite(st1, LOW);

shiftOut(ds1, sh1, MSBFIRST, digits[0]);

shiftOut(ds1, sh1, MSBFIRST, digits[4]);

digitalWrite(st1, HIGH);

digitalWrite(st5, LOW);

shiftOut(ds5, sh5, MSBFIRST, digits[0]);

shiftOut(ds5, sh5, MSBFIRST, digits[1]);

digitalWrite(st5, HIGH);

delay(times);

}

void countdown4()

{

digitalWrite(st1, LOW);

shiftOut(ds1, sh1, MSBFIRST, digits[0]);

shiftOut(ds1, sh1, MSBFIRST, digits[3]);

digitalWrite(st1, HIGH);

digitalWrite(st5, LOW);

shiftOut(ds5, sh5, MSBFIRST, digits[0]);

shiftOut(ds5, sh5, MSBFIRST, digits[4]);

digitalWrite(st5, HIGH);

delay(times);

digitalWrite(st1, LOW);

shiftOut(ds1, sh1, MSBFIRST, digits[0]);

shiftOut(ds1, sh1, MSBFIRST, digits[2]);

digitalWrite(st1, HIGH);

digitalWrite(st5, LOW);

shiftOut(ds5, sh5, MSBFIRST, digits[0]);

shiftOut(ds5, sh5, MSBFIRST, digits[3]);

digitalWrite(st5, HIGH);

delay(times);

digitalWrite(st1, LOW);

shiftOut(ds1, sh1, MSBFIRST, digits[0]);

shiftOut(ds1, sh1, MSBFIRST, digits[1]);

digitalWrite(st1, HIGH);

digitalWrite(st5, LOW);

shiftOut(ds5, sh5, MSBFIRST, digits[0]);

shiftOut(ds5, sh5, MSBFIRST, digits[2]);

digitalWrite(st5, HIGH);

delay(times);

digitalWrite(st1, LOW);

shiftOut(ds1, sh1, MSBFIRST, digits[0]);

shiftOut(ds1, sh1, MSBFIRST, digits[0]);

digitalWrite(st1, HIGH);

digitalWrite(st5, LOW);

shiftOut(ds5, sh5, MSBFIRST, digits[0]);

shiftOut(ds5, sh5, MSBFIRST, digits[1]);

digitalWrite(st5, HIGH);

delay(times);

}

void countdown5()

{

digitalWrite(st5, LOW);

shiftOut(ds5, sh5, MSBFIRST, digits[1]);

shiftOut(ds5, sh5, MSBFIRST, digits[5]);

digitalWrite(st5, HIGH);

digitalWrite(st1, LOW);

shiftOut(ds1, sh1, MSBFIRST, digits[0]);

shiftOut(ds1, sh1, MSBFIRST, digits[8]);

digitalWrite(st1, HIGH);

delay(times);

digitalWrite(st5, LOW);

shiftOut(ds5, sh5, MSBFIRST, digits[1]);

shiftOut(ds5, sh5, MSBFIRST, digits[4]);

digitalWrite(st5, HIGH);

digitalWrite(st1, LOW);

shiftOut(ds1, sh1, MSBFIRST, digits[0]);

shiftOut(ds1, sh1, MSBFIRST, digits[7]);

digitalWrite(st1, HIGH);

delay(times);

digitalWrite(st5, LOW);

shiftOut(ds5, sh5, MSBFIRST, digits[1]);

shiftOut(ds5, sh5, MSBFIRST, digits[3]);

digitalWrite(st5, HIGH);

digitalWrite(st1, LOW);

shiftOut(ds1, sh1, MSBFIRST, digits[0]);

shiftOut(ds1, sh1, MSBFIRST, digits[6]);

digitalWrite(st1, HIGH);

delay(times);

digitalWrite(st5, LOW);

shiftOut(ds5, sh5, MSBFIRST, digits[1]);

shiftOut(ds5, sh5, MSBFIRST, digits[2]);

digitalWrite(st5, HIGH);

digitalWrite(st1, LOW);

shiftOut(ds1, sh1, MSBFIRST, digits[0]);

shiftOut(ds1, sh1, MSBFIRST, digits[5]);

digitalWrite(st1, HIGH);

delay(times);

digitalWrite(st5, LOW);

shiftOut(ds5, sh5, MSBFIRST, digits[1]);

shiftOut(ds5, sh5, MSBFIRST, digits[1]);

digitalWrite(st5, HIGH);

digitalWrite(st1, LOW);

shiftOut(ds1, sh1, MSBFIRST, digits[0]);

shiftOut(ds1, sh1, MSBFIRST, digits[4]);

digitalWrite(st1, HIGH);

delay(times);

digitalWrite(st5, LOW);

shiftOut(ds5, sh5, MSBFIRST, digits[1]);

shiftOut(ds5, sh5, MSBFIRST, digits[0]);

digitalWrite(st5, HIGH);

digitalWrite(st1, LOW);

shiftOut(ds1, sh1, MSBFIRST, digits[0]);

shiftOut(ds1, sh1, MSBFIRST, digits[3]);

digitalWrite(st1, HIGH);

delay(times);

digitalWrite(st5, LOW);

shiftOut(ds5, sh5, MSBFIRST, digits[0]);

shiftOut(ds5, sh5, MSBFIRST, digits[9]);

digitalWrite(st5, HIGH);

digitalWrite(st1, LOW);

shiftOut(ds1, sh1, MSBFIRST, digits[0]);

shiftOut(ds1, sh1, MSBFIRST, digits[2]);

digitalWrite(st1, HIGH);

delay(times);

digitalWrite(st5, LOW);

shiftOut(ds5, sh5, MSBFIRST, digits[0]);

shiftOut(ds5, sh5, MSBFIRST, digits[8]);

digitalWrite(st5, HIGH);

digitalWrite(st1, LOW);

shiftOut(ds1, sh1, MSBFIRST, digits[0]);

shiftOut(ds1, sh1, MSBFIRST, digits[1]);

digitalWrite(st1, HIGH);

delay(times);

digitalWrite(st5, LOW);

shiftOut(ds5, sh5, MSBFIRST, digits[0]);

shiftOut(ds5, sh5, MSBFIRST, digits[7]);

digitalWrite(st5, HIGH);

digitalWrite(st1, LOW);

shiftOut(ds1, sh1, MSBFIRST, digits[0]);

shiftOut(ds1, sh1, MSBFIRST, digits[0]);

digitalWrite(st1, HIGH);

delay(times);

}

void countdown6()

{

digitalWrite(st5, LOW);

shiftOut(ds5, sh5, MSBFIRST, digits[0]);

shiftOut(ds5, sh5, MSBFIRST, digits[6]);

digitalWrite(st5, HIGH);

digitalWrite(st1, LOW);

shiftOut(ds1, sh1, MSBFIRST, digits[0]);

shiftOut(ds1, sh1, MSBFIRST, digits[3]);

digitalWrite(st1, HIGH);

delay(times);

digitalWrite(st5, LOW);

shiftOut(ds5, sh5, MSBFIRST, digits[0]);

shiftOut(ds5, sh5, MSBFIRST, digits[5]);

digitalWrite(st5, HIGH);

digitalWrite(st1, LOW);

shiftOut(ds1, sh1, MSBFIRST, digits[0]);

shiftOut(ds1, sh1, MSBFIRST, digits[2]);

digitalWrite(st1, HIGH);

delay(times);

digitalWrite(st5, LOW);

shiftOut(ds5, sh5, MSBFIRST, digits[0]);

shiftOut(ds5, sh5, MSBFIRST, digits[4]);

digitalWrite(st5, HIGH);

digitalWrite(st1, LOW);

shiftOut(ds1, sh1, MSBFIRST, digits[0]);

shiftOut(ds1, sh1, MSBFIRST, digits[1]);

digitalWrite(st1, HIGH);

delay(times);

}

//LIGHT DEFAULT

void lightdefault()

{

digitalWrite( g1 , LOW );

digitalWrite( g2 , LOW );

digitalWrite( g3 , LOW );

digitalWrite( g4 , LOW );

digitalWrite( y1 , LOW );

digitalWrite(y2 , LOW );

digitalWrite( y3 , LOW );

digitalWrite(y4 , LOW );

digitalWrite (cp3 , LOW);

digitalWrite(cp4 , LOW);

digitalWrite (cp1 ,HIGH );

digitalWrite(cp2 , HIGH);

digitalWrite ( r1 , HIGH );

digitalWrite ( r2 , HIGH );

digitalWrite ( r3 , HIGH );

digitalWrite ( r4 , HIGH );

countdown1();

digitalWrite ( r1 ,HIGH );

digitalWrite ( r2 ,HIGH );

digitalWrite ( g3 ,HIGH );

digitalWrite ( g4 ,HIGH );

digitalWrite ( r3 , LOW);

digitalWrite ( r4 , LOW);

digitalWrite( y1 , LOW );

digitalWrite(y2 , LOW );

digitalWrite( y3 , LOW );

digitalWrite(y4 , LOW );

digitalWrite( g1 , LOW );

digitalWrite( g2 , LOW );

digitalWrite( cp1 , LOW );

digitalWrite(cp2 , LOW);

digitalWrite (cp3 , LOW);

digitalWrite(cp4 , LOW);

countdown2();

digitalWrite ( r1 ,HIGH );

digitalWrite ( r2 ,HIGH );

digitalWrite ( y3 , HIGH );

digitalWrite( y4, HIGH);

digitalWrite ( r3 , LOW);

digitalWrite ( r4 , LOW);

digitalWrite( y1 , LOW );

digitalWrite( y2 , LOW );

digitalWrite( g1 , LOW );

digitalWrite( g2 , LOW );

digitalWrite( g3 , LOW );

digitalWrite( g4 , LOW );

digitalWrite( cp1 , LOW );

digitalWrite(cp2 , LOW);

digitalWrite (cp3 , LOW);

digitalWrite(cp4 , LOW);

countdown3();

digitalWrite (cp3 ,HIGH );

digitalWrite (cp4 , HIGH );

digitalWrite ( r1 ,HIGH );

digitalWrite ( r2 ,HIGH );

digitalWrite ( r3 ,HIGH );

digitalWrite ( r4 ,HIGH );

digitalWrite( g1 , LOW );

digitalWrite( g2 , LOW );

digitalWrite( g3 , LOW );

digitalWrite( g4 , LOW );

digitalWrite( y1 , LOW );

digitalWrite(y2 , LOW );

digitalWrite( y3 , LOW );

digitalWrite(y4 , LOW );

digitalWrite(cp1 , LOW );

digitalWrite(cp2 , LOW);

countdown4();

digitalWrite ( r3 ,HIGH );

digitalWrite ( r4 ,HIGH );

digitalWrite ( g1 ,HIGH );

digitalWrite ( g2 ,HIGH );

digitalWrite( r1 , LOW );

digitalWrite( r2 , LOW );

digitalWrite( y1 , LOW );

digitalWrite(y2 , LOW );

digitalWrite( y3 , LOW );

digitalWrite(y4 , LOW );

digitalWrite( g3 , LOW );

digitalWrite( g4 , LOW );

digitalWrite(cp1 , LOW );

digitalWrite(cp2 , LOW);

digitalWrite (cp3 , LOW);

digitalWrite(cp4 , LOW);

countdown5();

digitalWrite ( r3 ,HIGH );

digitalWrite ( r4 ,HIGH );

digitalWrite ( y1 ,HIGH );

digitalWrite ( y2 ,HIGH );

digitalWrite( r1 , LOW );

digitalWrite( r2 , LOW );

digitalWrite( y3 , LOW );

digitalWrite(y4 , LOW );

digitalWrite( g1 , LOW );

digitalWrite( g2 , LOW );

digitalWrite( g3 , LOW );

digitalWrite( g4 , LOW );

digitalWrite(cp1 , LOW );

digitalWrite(cp2 , LOW);

digitalWrite (cp3 , LOW);

digitalWrite(cp4 , LOW);

countdown6();

if ( r1==r2==r3==r4==y2==y1==HIGH )

{

lightdefault();

}

}

void light0()

{

digitalWrite ( r3 ,LOW );

digitalWrite ( r4 ,LOW );

digitalWrite ( y1 ,LOW );

digitalWrite ( y2 ,LOW );

digitalWrite( r1 , LOW );

digitalWrite( r2 , LOW );

digitalWrite( y3 , LOW );

digitalWrite(y4 , LOW );

digitalWrite( g1 , LOW );

digitalWrite( g2 , LOW );

digitalWrite( g3 , LOW );

digitalWrite( g4 , LOW );

digitalWrite(cp1 , LOW );

digitalWrite(cp2 , LOW);

digitalWrite (cp3 , LOW);

digitalWrite(cp4 , LOW);

}

void loop()

{

lightdefault();

light0();

}