#define ROW1 13

#define ROW2 12

#define ROW3 11

#define ROW4 10

#define ROW5 9

#define ROW6 8

#define ROW7 7

#define ROW8 6

#define COL1 5

#define COL2 4

#define COL3 3

#define COL4 A4

#define COL5 A3

#define COL6 A2

#define COL7 A1

#define COL8 A0

#define BUTTON 2

const int row[] = {

ROW1, ROW2, ROW3, ROW4, ROW5, ROW6, ROW7, ROW8};

const int col[] = {

COL1,COL2, COL3, COL4, COL5, COL6, COL7, COL8};

byte X[8][8] = {

{1,0,0,0,0,0,0,1},

{0,1,0,0,0,0,1,0},

{0,0,1,0,0,1,0,0},

{0,0,0,1,1,0,0,0},

{0,0,0,1,1,0,0,0},

{0,0,1,0,0,1,0,0},

{0,1,0,0,0,0,1,0},

{1,0,0,0,0,0,0,1}

};

byte P[8][8] = {

{1,0,0,0,0,0,0,1},

{1,0,0,0,0,0,0,1},

{1,0,0,1,1,0,0,1},

{1,0,0,0,0,0,0,1},

{1,0,0,0,0,0,0,1},

{1,0,0,1,1,1,1,1},

{1,0,0,1,1,1,1,1},

{1,0,0,1,1,1,1,1}

};

byte circle[8][8] = {

{1,1,0,0,0,0,1,1},

{1,0,0,0,0,0,0,1},

{0,1,1,1,1,1,1,0},

{0,0,0,0,0,0,0,0},

{0,0,0,0,0,0,0,0},

{0,1,1,1,1,1,1,0},

{1,0,1,1,1,1,0,1},

{1,1,0,0,0,0,1,1}

};

byte C[8][8] = {

{1,1,0,0,0,0,0,1},

{1,0,0,0,0,0,0,1},

{0,0,1,1,1,1,1,1},

{0,0,1,1,1,1,1,1},

{0,0,1,1,1,1,1,1},

{0,0,1,1,1,1,1,1},

{1,0,0,0,0,0,0,1},

{1,1,0,0,0,0,0,1}

};

byte previousState=1, presentState=1, patternNumber=0;

void setup()

{

for (byte i = 0; i <= sizeof(row); i++) {

pinMode(row[i], OUTPUT);

}

for (byte i = 0; i <= sizeof(col); i++) {

pinMode(col[i], OUTPUT);

}

pinMode(2, INPUT\_PULLUP);

}

void loop()

{

presentState = digitalRead(BUTTON);

if(presentState == 0 && previousState == 1){

patternNumber++;

if(patternNumber>2) patternNumber = 0;

}

if(patternNumber==0) showPattern(circle);

else if(patternNumber == 1) showPattern(C);

else showPattern(P);

delay(2);

previousState = presentState;

}

void showPattern(byte matrix[8][8]){

for(byte i = 0; i < 8; i++){

for(byte j = 0; j < 8; j++){

digitalWrite(row[j], 1 - X[i][j]);

digitalWrite(col[j], 1 - matrix[i][j]);

}

for(byte j = 0; j < 8; j++){

digitalWrite(row[j], HIGH);

digitalWrite(col[j], LOW);

}

}

}