#include<avr/io.h>

#include<avr/interrupt.h>

int ary[3][3];

int i,x,y,c,d,t,j;

void set()

{

if((PIND & 0x10)==0b00010000)

{

while(ary[x][y]==0)

{

i++;

//\_delay\_ms(1000);

if(i>9)

{

Serial.println("$$$$$$$--Game Draw--$$$$$$$$");

ary[x][y]=0;

i=0;

}

else

{

if(i%2==0)

{

ary[x][y]=2;

}

else

{

ary[x][y]=1;

}

}

}

}

}

void led()

{

if(ary[0][0]==2) {PORTD|=0b00100000;}

if(ary[0][1]==2) {PORTD|=0b01000000;}

if(ary[0][2]==2) {PORTD|=0b10000000;}

if(ary[1][0]==2) {PORTB|=0b00000001;}

if(ary[1][1]==2) {PORTB|=0b00000010;}

if(ary[1][2]==2) {PORTB|=0b00000100;}

if(ary[2][0]==2) {PORTB|=0b00001000;}

if(ary[2][1]==2) {PORTB|=0b00010000;}

if(ary[2][2]==2) {PORTB|=0b00100000;}

if(ary[0][0]==1) {PORTD^=0b00100000;}

if(ary[0][1]==1) {PORTD^=0b01000000;}

if(ary[0][2]==1) {PORTD^=0b10000000;}

if(ary[1][0]==1) {PORTB^=0b00000001;}

if(ary[1][1]==1) {PORTB^=0b00000010;}

if(ary[1][2]==1) {PORTB^=0b00000100;}

if(ary[2][0]==1) {PORTB^=0b00001000;}

if(ary[2][1]==1) {PORTB^=0b00010000;}

if(ary[2][2]==1) {PORTB^=0b00100000;}

}

void check()

{

if(

(ary[0][0]== 2 && ary[1][1]== 2 && ary[2][2]== 2) ||

(ary[0][2]== 2 && ary[1][1]== 2 && ary[2][0]== 2) ||

//diaglon

(ary[0][0]== 2 && ary[0][1]== 2 && ary[0][2]== 2) ||

(ary[1][0]== 2 && ary[1][1]== 2 && ary[1][2]== 2) ||

(ary[2][0]== 2 && ary[2][1]== 2 && ary[2][2]== 2) ||

//vertical

(ary[0][0]== 2 && ary[1][0]== 2 && ary[2][0]== 2) ||

(ary[0][1]== 2 && ary[1][1]== 2 && ary[2][1]== 2) ||

(ary[0][2]== 2 && ary[1][2]== 2 && ary[2][2]== 2))

//horizontal

{PORTD=0xFF;

PORTB=0xFF;

//for(c=0;c<3;c++)

// for(d=0;c<3;c++)

//ary[c][d]==2;

}

else if(

(ary[0][0]== 1 && ary[1][1]== 1 && ary[2][2]== 1) ||

(ary[0][2]== 1 && ary[1][1]== 1 && ary[2][0]== 1) ||

//diaglon

(ary[0][0]== 1 && ary[0][1]== 1 && ary[0][2]== 1) ||

(ary[1][0]== 1 && ary[1][1]== 1 && ary[1][2]== 1) ||

(ary[2][0]== 1 && ary[2][1]== 1 && ary[2][2]== 1) ||

//vertical

(ary[0][0]== 1 && ary[1][0]== 1 && ary[2][0]== 1) ||

(ary[0][1]== 1 && ary[1][1]== 1 && ary[2][1]== 1) ||

(ary[0][2]== 1 && ary[1][2]== 1 && ary[2][2]== 1))

//horizontal

{PORTD^=0xFF;

PORTB^0xFF;

//for(c=0;c<3;c++)

// for(d=0;c<3;c++)

// ary[c][d]==1;

}

}

void result()

{

//Serial.println("result");

//winning person x on x axis

for (d=0;d<3;d++)

{

if (ary[x][d]==2)

{j++;}

}

if(j==3||(ary[0][0]== 2 && ary[1][1]== 2 && ary[2][2]== 2) ||

(ary[0][2]== 2 && ary[1][1]== 2 && ary[2][0]== 2))

{ary[c][d]==2;}

else {j=0; }

//winning person x on y axis

for (c=0;c<3;c++)

{

if (ary[c][y]==2)

j++;

}

if(j==3||(ary[0][0]== 2 && ary[1][1]== 2 && ary[2][2]== 2) ||

(ary[0][2]== 2 && ary[1][1]== 2 && ary[2][0]== 2))

{ary[c][d]==2;}

else {j=0; }

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for (d=0;d<3;d++)

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(ary[0][2]== 1 && ary[1][1]== 1 && ary[2][0]== 1))

{ary[c][d]==1;}

else {j=0; }

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for (c=0;c<3;c++)

{

if (ary[c][y]==1)

j++;

}

if(j==3||(ary[0][0]== 1 && ary[1][1]== 1 && ary[2][2]== 1) ||

(ary[0][2]== 1 && ary[1][1]== 1 && ary[2][0]== 1))

{ary[c][d]==1;}

else {j=0; }

}

int main()

{

DDRB|=0xFF;

DDRD|=0b00011100;

EIMSK|=(1<<INT1) |(1<<INT0);

EICRA|=(1<<ISC11) |(1<<ISC01);

// TCCR0A|=(1<<WGM01);//|(1<<COM0A1)|(1<<COM0A0);

OCR1A = 100;

TIMSK1 = (1<<OCIE1A);

TCCR1B |=(1<<CS11)|(1<<CS10);

sei();

Serial.begin(9600);

while(1)

{

set();

//result();

Serial.print(x);

Serial.println(y);

Serial.println(i);

Serial.println("$$$$$$$$$$$");

for(c=0;c<3;c++)

{for(d=0;d<3;d++)

{

//check();

Serial.print(ary[c][d]);

}

Serial.println(" ");

}

Serial.println(" ");

\_delay\_ms(2000);

}

}

ISR(INT0\_vect)

{

x++;

if(x>=3)

{ x=0;}

}

ISR(INT1\_vect)

{

y++;

if(y>=3)

{ y=0;}

}

ISR(TIMER1\_COMPA\_vect)

{

check();

led();

}

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else

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if(i%2==0)

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ary[x][y]=2;

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if(ary[2][0]==2) {PORTB|=0b00001000;}

if(ary[2][1]==2) {PORTB|=0b00010000;}

if(ary[2][2]==2) {PORTB|=0b00100000;}

if(ary[0][0]==1) {PORTD^=0b00100000;}

if(ary[0][1]==1) {PORTD^=0b01000000;}

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}

void check()

{

if(

(ary[0][0]== 2 && ary[1][1]== 2 && ary[2][2]== 2) ||

(ary[0][2]== 2 && ary[1][1]== 2 && ary[2][0]== 2) ||

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(ary[0][0]== 2 && ary[0][1]== 2 && ary[0][2]== 2) ||

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//vertical

(ary[0][0]== 2 && ary[1][0]== 2 && ary[2][0]== 2) ||

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//horizontal

{PORTD^=0xFF;

PORTB^0xFF;

//for(c=0;c<3;c++)

// for(d=0;c<3;c++)

// ary[c][d]==1;

}

}

void result()

{

//Serial.println("result");

//winning person x on x axis

for (d=0;d<3;d++)

{

if (ary[x][d]==2)

{j++;}

}

if(j==3||(ary[0][0]== 2 && ary[1][1]== 2 && ary[2][2]== 2) ||

(ary[0][2]== 2 && ary[1][1]== 2 && ary[2][0]== 2))

{ary[c][d]==2;}

else {j=0; }

//winning person x on y axis

for (c=0;c<3;c++)

{

if (ary[c][y]==2)

j++;

}

if(j==3||(ary[0][0]== 2 && ary[1][1]== 2 && ary[2][2]== 2) ||

(ary[0][2]== 2 && ary[1][1]== 2 && ary[2][0]== 2))

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OCR1A = 100;

TIMSK1 = (1<<OCIE1A);

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sei();

Serial.begin(9600);

while(1)

{

set();

//result();

Serial.print(x);

Serial.println(y);

Serial.println(i);

Serial.println("$$$$$$$$$$$");

for(c=0;c<3;c++)

{for(d=0;d<3;d++)

{

//check();

Serial.print(ary[c][d]);

}

Serial.println(" ");

}

Serial.println(" ");

\_delay\_ms(2000);

}

}

ISR(INT0\_vect)

{

x++;

if(x>=3)

{ x=0;}

}

ISR(INT1\_vect)

{

y++;

if(y>=3)

{ y=0;}

}

ISR(TIMER1\_COMPA\_vect)

{

check();

led();

}