// 1 2 3 A

if(X1==0 && Y1==0){

gpio\_port\_write(GPIOD, segment[0]);

}

if(X1==0 && Y2==0){

gpio\_port\_write(GPIOD, segment[1]);

}

if(X1==0 && Y3==0){

gpio\_port\_write(GPIOD, segment[2]);

}

if(X1==0 && Y4==0){

gpio\_port\_write(GPIOD, segment[3]);

}

// 4 5 6 b

if(X2==0 && Y1==0){

gpio\_port\_write(GPIOD, segment[4]);

}

if(X2==0 && Y2==0){

gpio\_port\_write(GPIOD, segment[5]);

}

if(X2==0 && Y3==0){

gpio\_port\_write(GPIOD, segment[6]);

}

if(X2==0 && Y4==0){

gpio\_port\_write(GPIOD, segment[7]);

}

// 7 8 9 C

if(X3==0 && Y1==0){

gpio\_port\_write(GPIOD, segment[8]);

}

if(X3==0 && Y2==0){

gpio\_port\_write(GPIOD, segment[9]);

}

if(X3==0 && Y3==0){

gpio\_port\_write(GPIOD, segment[10]);

}

if(X3==0 && Y4==0){

gpio\_port\_write(GPIOD, segment[11]);

}

// E 0 F d

if(X4==0 && Y1==0){

gpio\_port\_write(GPIOD, segment[12]);

}

if(X4==0 && Y2==0){

gpio\_port\_write(GPIOD, segment[13]);

}

if(X4==0 && Y3==0){

gpio\_port\_write(GPIOD, segment[14]);

}

if(X4==0 && Y4==0){

gpio\_port\_write(GPIOD, segment[15]);

}

FlagStatus X1, X2, X3, X4, Y1, Y2, Y3, Y4;

X1 = gpio\_input\_bit\_get (GPIOB, GPIO\_PIN\_0);

X2 = gpio\_input\_bit\_get (GPIOB, GPIO\_PIN\_1);

X3 = gpio\_input\_bit\_get (GPIOB, GPIO\_PIN\_2);

X4 = gpio\_input\_bit\_get (GPIOB, GPIO\_PIN\_3);

Y1 = gpio\_input\_bit\_get (GPIOB, GPIO\_PIN\_4);

Y2 = gpio\_input\_bit\_get (GPIOB, GPIO\_PIN\_5);

Y3 = gpio\_input\_bit\_get (GPIOB, GPIO\_PIN\_6);

Y4 = gpio\_input\_bit\_get (GPIOB, GPIO\_PIN\_7);

X1 = gpio\_input\_bit\_get (GPIOB, GPIO\_PIN\_0);

X2 = gpio\_input\_bit\_get (GPIOB, GPIO\_PIN\_1);

X3 = gpio\_input\_bit\_get (GPIOB, GPIO\_PIN\_2);

X4 = gpio\_input\_bit\_get (GPIOB, GPIO\_PIN\_3);

Y1 = gpio\_output\_bit\_get (GPIOB, GPIO\_PIN\_4);

Y2 = gpio\_output\_bit\_get (GPIOB, GPIO\_PIN\_5);

Y3 = gpio\_output\_bit\_get (GPIOB, GPIO\_PIN\_6);

Y4 = gpio\_output\_bit\_get (GPIOB, GPIO\_PIN\_7);

// 1 2 3 A

if(X1==1 && Y1==1){

gpio\_port\_write(GPIOD, segment[0]);

}

if(X1==1 && Y2==1){

gpio\_port\_write(GPIOD, segment[1]);

}

if(X1==1 && Y3==1){

gpio\_port\_write(GPIOD, segment[2]);

}

if(X1==1 && Y4==1){

gpio\_port\_write(GPIOD, segment[3]);

}

// 4 5 6 b

if(X2==1 && Y1==1){

gpio\_port\_write(GPIOD, segment[4]);

}

if(X2==1 && Y2==1){

gpio\_port\_write(GPIOD, segment[5]);

}

if(X2==1 && Y3==1){

gpio\_port\_write(GPIOD, segment[6]);

}

if(X2==1 && Y4==1){

gpio\_port\_write(GPIOD, segment[7]);

}

// 7 8 9 C

if(X3==1 && Y1==1){

gpio\_port\_write(GPIOD, segment[8]);

}

if(X3==1 && Y2==1){

gpio\_port\_write(GPIOD, segment[9]);

}

if(X3==1 && Y3==1){

gpio\_port\_write(GPIOD, segment[10]);

}

if(X3==1 && Y4==1){

gpio\_port\_write(GPIOD, segment[11]);

}

// E 0 F d

if(X4==1 && Y1==1){

gpio\_port\_write(GPIOD, segment[12]);

}

if(X4==1 && Y2==1){

gpio\_port\_write(GPIOD, segment[13]);

}

if(X4==1 && Y3==1){

gpio\_port\_write(GPIOD, segment[14]);

}

if(X4==1 && Y4==1){

gpio\_port\_write(GPIOD, segment[15]);

}

FlagStatus X1, X2, X3, X4, Y1, Y2, Y3, Y4;

void keypad\_config(void)

{

rcu\_periph\_clock\_enable(RCU\_GPIOB);

// gpio\_init(GPIOB, GPIO\_MODE\_IPU, GPIO\_OSPEED\_50MHZ, GPIO\_PIN\_ALL);

X1 = gpio\_input\_bit\_get(GPIOB, GPIO\_PIN\_0);

X2 = gpio\_input\_bit\_get(GPIOB, GPIO\_PIN\_1);

X3 = gpio\_input\_bit\_get(GPIOB, GPIO\_PIN\_2);

X4 = gpio\_input\_bit\_get(GPIOB, GPIO\_PIN\_3);

Y1 = gpio\_input\_bit\_get(GPIOB, GPIO\_PIN\_4);

Y2 = gpio\_input\_bit\_get(GPIOB, GPIO\_PIN\_5);

Y3 = gpio\_input\_bit\_get(GPIOB, GPIO\_PIN\_6);

Y4 = gpio\_input\_bit\_get(GPIOB, GPIO\_PIN\_7);

}

int main(void)

{

keypad\_config();

segment\_config();

while(1){

gpio\_port\_write(GPIOD, 0x00);

X1=X2=X3=X4=0;

// 1 2 3 A

if(X1==1){

if(Y1==1){

gpio\_port\_write(GPIOD, segment[0]);

}

else if(Y2==1){

gpio\_port\_write(GPIOD, segment[1]);

}

else if(Y3==1){

gpio\_port\_write(GPIOD, segment[2]);

}

else if(Y4==1){

gpio\_port\_write(GPIOD, segment[3]);

}

}

// 4 5 6 b

if(X2==1){

if(Y1==1){

gpio\_port\_write(GPIOD, segment[4]);

}

else if(Y2==1){

gpio\_port\_write(GPIOD, segment[5]);

}

else if(Y3==1){

gpio\_port\_write(GPIOD, segment[6]);

}

else if(Y4==1){

gpio\_port\_write(GPIOD, segment[7]);

}

}

// 7 8 9 C

if(X3==1){

if(Y1==1){

gpio\_port\_write(GPIOD, segment[8]);

}

else if(Y2==1){

gpio\_port\_write(GPIOD, segment[9]);

}

else if(Y3==1){

gpio\_port\_write(GPIOD, segment[10]);

}

else if(Y4==1){

gpio\_port\_write(GPIOD, segment[11]);

}

}

// E 0 F d

if(X4==1){

if(Y1==1){

gpio\_port\_write(GPIOD, segment[12]);

}

else if(Y2==1){

gpio\_port\_write(GPIOD, segment[13]);

}

else if(Y3==1){

gpio\_port\_write(GPIOD, segment[14]);

}

else if(Y4==1){

gpio\_port\_write(GPIOD, segment[15]);

}

}

}

}

// 1 2 3 A

if(X1==0){

if(Y1==0){

gpio\_port\_write(GPIOD, segment[0]);

}

else if(Y2==0){

gpio\_port\_write(GPIOD, segment[1]);

}

else if(Y3==0){

gpio\_port\_write(GPIOD, segment[2]);

}

else if(Y4==0){

gpio\_port\_write(GPIOD, segment[3]);

}

}

// 4 5 6 b

if(X2==0){

if(Y1==0){

gpio\_port\_write(GPIOD, segment[4]);

}

else if(Y2==0){

gpio\_port\_write(GPIOD, segment[5]);

}

else if(Y3==0){

gpio\_port\_write(GPIOD, segment[6]);

}

else if(Y4==0){

gpio\_port\_write(GPIOD, segment[7]);

}

}

// 7 8 9 C

if(X3==0){

if(Y1==0){

gpio\_port\_write(GPIOD, segment[8]);

}

else if(Y2==0){

gpio\_port\_write(GPIOD, segment[9]);

}

else if(Y3==0){

gpio\_port\_write(GPIOD, segment[10]);

}

else if(Y4==0){

gpio\_port\_write(GPIOD, segment[11]);

}

}

// E 0 F d

if(X4==0){

if(Y1==0){

gpio\_port\_write(GPIOD, segment[12]);

}

else if(Y2==0){

gpio\_port\_write(GPIOD, segment[13]);

}

else if(Y3==0){

gpio\_port\_write(GPIOD, segment[14]);

}

else if(Y4==0){

gpio\_port\_write(GPIOD, segment[15]);

}

}