// <https://blog.nowcoder.net/n/366a5bd09fc744488f400a55bf68a127>

uint32\_t segment[]={0x06, 0x5b, 0x4f, 0x77, // 1 2 3 A

0x66, 0x6d, 0x7D, 0x7c, // 4 5 6 b

0x07, 0x7f, 0x6F, 0x39, // 7 8 9 C

0x79, 0x3f, 0x5e, 0x71}; // E 0 F d

void keypad\_config(void)

{

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

gpio\_init(GPIOB, GPIO\_MODE\_IPU, GPIO\_OSPEED\_10MHZ, GPIO\_PIN\_4|GPIO\_PIN\_5|GPIO\_PIN\_6|GPIO\_PIN\_7);

gpio\_init(GPIOB, GPIO\_MODE\_OUT\_PP, GPIO\_OSPEED\_10MHZ, GPIO\_PIN\_0|GPIO\_PIN\_1|GPIO\_PIN\_2|GPIO\_PIN\_3);

}

void segment\_config(void)

{

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

gpio\_init(GPIOD, GPIO\_MODE\_OUT\_PP, GPIO\_OSPEED\_50MHZ, GPIO\_PIN\_ALL);

}

int main(void)

{

uint16\_t temp;

int ucBackValue=0;

keypad\_config();

segment\_config();

while(1){

// scan row 1

gpio\_port\_write(GPIOB, 0xfe00);

temp = gpio\_input\_port\_get(GPIOB); //?????????

temp = temp&0xf000; //???4?

if (temp!=0xf000) //???4????1

{

delay\_1ms(1000);

temp = gpio\_input\_port\_get(GPIOB);

temp = temp&0xf000;

if (temp!=0xf000) //????????4??????1

{

temp = gpio\_input\_port\_get(GPIOB)&0xff00; //????????

switch(temp)

{

case 0xee00:

ucBackValue = 1;

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

break;

case 0xde00:

ucBackValue = 4;

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

break;

case 0xbe00:

ucBackValue = 7;

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

break;

case 0x7e00:

ucBackValue = 'E';

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

break;

default:break;

}

while(temp!=0xf000) //??????,???????

{

temp = gpio\_input\_port\_get(GPIOB);

temp = temp&0xf000;

}

}

}

// scan row 2

gpio\_port\_write(GPIOB, 0xfd00);

temp = gpio\_input\_port\_get(GPIOB); //?????????

temp = temp&0xf000; //???4?

if (temp!=0xf000) //???4????1

{

delay\_1ms(1000);

temp = gpio\_input\_port\_get(GPIOB);

temp = temp&0xf000;

if (temp!=0xf000) //????????4??????1

{

temp = gpio\_input\_port\_get(GPIOB)&0xff00; //????????

switch(temp)

{

case 0xed00:

ucBackValue = 2;

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

break;

case 0xdd00:

ucBackValue = 5;

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

break;

case 0xbd00:

ucBackValue = 8;

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

break;

case 0x7d00:

ucBackValue = 0;

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

break;

default:break;

}

while(temp!=0xf000) //??????,???????

{

temp = gpio\_input\_port\_get(GPIOB);

temp = temp&0xf000;

}

}

}

// scan row 3

gpio\_port\_write(GPIOB, 0xfb00);

temp = gpio\_input\_port\_get(GPIOB); //?????????

temp = temp&0xf000; //???4?

if (temp!=0xf000) //???4????1

{

delay\_1ms(1000);

temp = gpio\_input\_port\_get(GPIOB);

temp = temp&0xf000;

if (temp!=0xf000) //????????4??????1

{

temp = gpio\_input\_port\_get(GPIOB)&0xff00; //????????

switch(temp)

{

case 0xeb00:

ucBackValue = 3;

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

break;

case 0xdb00:

ucBackValue = 6;

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

break;

case 0xbb00:

ucBackValue = 9;

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

break;

case 0x7b00:

ucBackValue = 'F';

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

break;

default:break;

}

while(temp!=0xf000) //??????,???????

{

temp = gpio\_input\_port\_get(GPIOB);

temp = temp&0xf000;

}

}

}

// scan row 4

gpio\_port\_write(GPIOB, 0xf700);

temp = gpio\_input\_port\_get(GPIOB); //?????????

temp = temp&0xf000; //???4?

if (temp!=0xf000) //???4????1

{

delay\_1ms(1000);

temp = gpio\_input\_port\_get(GPIOB);

temp = temp&0xf000;

if (temp!=0xf000) //????????4??????1

{

temp = gpio\_input\_port\_get(GPIOB)&0xff00; //????????

switch(temp)

{

case 0xe700:

ucBackValue = 'A';

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

break;

case 0xd700:

ucBackValue = 'B';

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

break;

case 0xb700:

ucBackValue = 'C';

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

break;

case 0x7700:

ucBackValue = 'D';

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

break;

default:break;

}

while(temp!=0xf000) //??????,???????

{

temp = gpio\_input\_port\_get(GPIOB);

temp = temp&0xf000;

}

}

}

}

}