//without library

\*/

int r1=9;

int r2=8;

int r3=7;

int r4=6;

int c1=13;

int c2=12;

int c3=11;

int c4=10;

void setup()

{

Serial.begin(9600);

pinMode(r1,OUTPUT);

pinMode(r2,OUTPUT);

pinMode(r3,OUTPUT);

pinMode(r4,OUTPUT);

pinMode(c1,INPUT);

pinMode(c2,INPUT);

pinMode(c3,INPUT);

pinMode(c4,INPUT);

}

void loop()

{

int val;

//setting the columns as high initially

digitalWrite(c1,HIGH);

digitalWrite(c2,HIGH);

digitalWrite(c3,HIGH);

digitalWrite(c4,HIGH);

//checking everything one by one

//case 1: col1 =0 while other col as 1

digitalWrite(r1,LOW);

digitalWrite(r2,HIGH);

digitalWrite(r3,HIGH);

digitalWrite(r4,HIGH);

//checking each column for row1 one by one

if(digitalRead(c1)==0)

{

Serial.println("key 1 pressed");

}

else if(digitalRead(c2)==0)

{

Serial.println("Key 2 pressed");

}

else if(digitalRead(c3)==0)

{

Serial.println("Key 3 pressed");

}

else if(digitalRead(c4)==0)

{

Serial.println("Key A pressed");

}

//case 2: col2 =0 while other col as 1

digitalWrite(r1,HIGH);

digitalWrite(r2,LOW);

digitalWrite(r3,HIGH);

digitalWrite(r4,HIGH);

//checking each column for row1 one by one

if(digitalRead(c1)==0)

{

Serial.println("key 4 pressed");

}

else if(digitalRead(c2)==0)

{

Serial.println("Key 5 pressed");

}

else if(digitalRead(c3)==0)

{

Serial.println("Key 6 pressed");

}

else if(digitalRead(c4)==0)

{

Serial.println("Key B pressed");

}

//case 3: col3 =0 while other col as 1

digitalWrite(r1,HIGH);

digitalWrite(r2,HIGH);

digitalWrite(r3,LOW);

digitalWrite(r4,HIGH);

//checking each column for row1 one by one

if(digitalRead(c1)==0)

{

Serial.println("key 7 pressed");

}

else if(digitalRead(c2)==0)

{

Serial.println("Key 8 pressed");

}

else if(digitalRead(c3)==0)

{

Serial.println("Key 9 pressed");

}

else if(digitalRead(c4)==0)

{

Serial.println("Key C pressed");

}

//case 1: col1 =0 while other col as 1

digitalWrite(r1,HIGH);

digitalWrite(r2,HIGH);

digitalWrite(r3,HIGH);

digitalWrite(r4,LOW);

//checking each column for row1 one by one

if(digitalRead(c1)==0)

{

Serial.println("key \* pressed");

}

else if(digitalRead(c2)==0)

{

Serial.println("Key 0 pressed");

}

else if(digitalRead(c3)==0)

{

Serial.println("Key # pressed");

}

else if(digitalRead(c4)==0)

{

Serial.println("Key D pressed");

}

//giving delay between keypress

delay(200);