CODE

The following code is installed into the microcontroller

void setup() {

// put your setup code here, to run once:

pinMode(0,OUTPUT);

pinMode(1,OUTPUT);

pinMode(2,INPUT);

pinMode(3,OUTPUT);

pinMode(4,OUTPUT);

pinMode(5,OUTPUT);

pinMode(6,OUTPUT);

pinMode(7,OUTPUT);

pinMode(8,OUTPUT);

pinMode(9,OUTPUT);

pinMode(10,OUTPUT);

}

void loop() {

// put your main code here, to run repeatedly:

digitalWrite(0,LOW);

digitalWrite(1,LOW);

digitalWrite(2,LOW);

digitalWrite(3,LOW);

digitalWrite(4,LOW);

digitalWrite(5,LOW);

digitalWrite(6,LOW);

digitalWrite(7,LOW);

digitalWrite(8,LOW);

digitalWrite(9,LOW);

digitalWrite(10,LOW);

AND();

}

void AND()

{

digitalWrite(0,LOW);

digitalWrite(1,LOW);

if (digitalRead(2)==LOW)

{

digitalWrite(0,LOW);

digitalWrite(1,HIGH);

if (digitalRead(2)==LOW)

{

digitalWrite(0,HIGH);

digitalWrite(1,LOW);

if (digitalRead(2)==LOW)

{

digitalWrite(0,HIGH);

digitalWrite(1,HIGH);

if (digitalRead(2)==HIGH)

{

digitalWrite(4,HIGH);

digitalWrite(5,HIGH);

delay(10000);

loop();

}

else

{XOR();}

}

else

{XOR();}

}

else{XOR();}

}

else

{XOR();}

}

void XOR()

{

digitalWrite(0,LOW);

digitalWrite(1,LOW);

if (digitalRead(2)==LOW)

{

digitalWrite(0,LOW);

digitalWrite(1,HIGH);

if (digitalRead(2)==HIGH)

{

digitalWrite(0,HIGH);

digitalWrite(1,LOW);

if (digitalRead(2)==HIGH)

{

digitalWrite(0,HIGH);

digitalWrite(1,HIGH);

if (digitalRead(2)==LOW)

{

digitalWrite(3,HIGH);

digitalWrite(4,HIGH);

digitalWrite(9,HIGH);

digitalWrite(7,HIGH);

digitalWrite(6,HIGH);

delay(10000);

loop();

}

else

{OR();}

}

else

{OR();}

}

Else

{OR();}

}

else

{OR();}

}

void OR()

{

digitalWrite(0,LOW);

digitalWrite(1,LOW);

if (digitalRead(2)==LOW)

{

digitalWrite(0,LOW);

digitalWrite(1,HIGH);

if (digitalRead(2)==HIGH)

{

digitalWrite(0,HIGH);

digitalWrite(1,LOW);

if (digitalRead(2)==HIGH)

{

digitalWrite(0,HIGH);

digitalWrite(1,HIGH);

if (digitalRead(2)==HIGH)

{

digitalWrite(3,HIGH);

digitalWrite(4,HIGH);

digitalWrite(9,HIGH);

digitalWrite(5,HIGH);

digitalWrite(6,HIGH);

delay(10000);

loop();

}

else

{NAND();}

}

else{NAND();}

}

else

{NAND();}

}

else

{NAND();}

}

void NAND()

{

digitalWrite(0,LOW);

digitalWrite(1,LOW);

if (digitalRead(2)==HIGH)

{

digitalWrite(0,LOW);

digitalWrite(1,HIGH);

if (digitalRead(2)==HIGH)

{

digitalWrite(0,HIGH);

digitalWrite(1,LOW);

if (digitalRead(2)==HIGH)

{

digitalWrite(0,HIGH);

digitalWrite(1,HIGH);

if (digitalRead(2)==LOW)

{

digitalWrite(8,HIGH);

digitalWrite(9,HIGH);

digitalWrite(4,HIGH);

digitalWrite(5,HIGH);

delay(10000);

loop();

}

else

{NOR();}

}

else

{ NOR();}

}

else

{NOR();}

}

else

{NOR();}

}

void NOR()

{

pinMode(0,OUTPUT);

pinMode(1,INPUT);

pinMode(2,OUTPUT);

pinMode(3,OUTPUT);

digitalWrite(0,LOW);

digitalWrite(2,LOW);

if (digitalRead(1)==HIGH)

{

digitalWrite(0,LOW);

digitalWrite(2,HIGH);

if (digitalRead(1)==LOW)

{

digitalWrite(0,HIGH);

digitalWrite(2,LOW);

if (digitalRead(1)==LOW)

{

digitalWrite(0,HIGH);

digitalWrite(2,HIGH);

if (digitalRead(1)==LOW)

{

digitalWrite(3,HIGH);

digitalWrite(8,HIGH);

digitalWrite(9,HIGH);

digitalWrite(5,HIGH);

digitalWrite(6,HIGH);

delay(10000);

loop();

}

else

{D\_FLIPfLOP();}

}

else

{D\_FLIPfLOP();}

}

else

{D\_FLIPfLOP();}

}

else

{D\_FLIPfLOP();}

}

void D\_FLIPfLOP()

{

pinMode(0,OUTPUT);

pinMode(1,OUTPUT);

pinMode(2,OUTPUT);

pinMode(10,INPUT);

digitalWrite(1,HIGH);

digitalWrite(2,LOW);

digitalWrite(0,HIGH);

digitalWrite(2,HIGH);

if(digitalRead(10)==HIGH)

{

digitalWrite(2,LOW);

digitalWrite(0,LOW);

digitalWrite(2,HIGH);

if(digitalRead(10)==LOW)

{

digitalWrite(3,HIGH);

digitalWrite(8,HIGH);

digitalWrite(9,HIGH);

digitalWrite(7,HIGH);

digitalWrite(6,HIGH);

digitalWrite(5,HIGH);

delay(10000);

loop();

}

}

}