/\* Written by Pat McMahon 19/1/2019

\* A022-Animated Disk-Auto

\* Goes through loop 2 times

\* Originally copied by Pat McMahon 21/7/2018 from Chapter 2.8 of Alan Smith's "Introduction to Arduino" textbook

\* www.introtoarduino.com

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const int kPinLed1 = 2;

const int kPinLed2 = 3;

const int kPinLed3 = 4;

const int kPinLed4 = 5;

const int kPinLed5 = 6;

const int kPinLed6 = 7;

const int kPinLed7 = 8;

const int kPinLed8 = 9;

const int kPinLed9 = 10;

const int kPinLed10 = 11;

int delayTime=300;

void setup()

{

pinMode(kPinLed1, OUTPUT);

pinMode(kPinLed2, OUTPUT);

pinMode(kPinLed3, OUTPUT);

pinMode(kPinLed4, OUTPUT);

pinMode(kPinLed5, OUTPUT);

pinMode(kPinLed6, OUTPUT);

pinMode(kPinLed7, OUTPUT);

pinMode(kPinLed8, OUTPUT);

pinMode(kPinLed9, OUTPUT);

pinMode(kPinLed10, OUTPUT);

}

void loop()

{

// turn on each of the LEDs in clockwise order

for (int i = 0; i < 2; i++)

{

digitalWrite(kPinLed1, HIGH);

delay(delayTime);

digitalWrite(kPinLed2, HIGH);

delay(delayTime);

digitalWrite(kPinLed3, HIGH);

delay(delayTime);

digitalWrite(kPinLed4, HIGH);

delay(delayTime);

digitalWrite(kPinLed5, HIGH);

delay(delayTime);

digitalWrite(kPinLed6, HIGH);

delay(delayTime);

digitalWrite(kPinLed7, HIGH);

delay(delayTime);

digitalWrite(kPinLed8, HIGH);

delay(delayTime);

digitalWrite(kPinLed9, HIGH);

delay(delayTime);

digitalWrite(kPinLed10, HIGH);

delay(delayTime);

// turn off each of the LEDs in clockwise order

digitalWrite(kPinLed1, LOW);

delay(delayTime);

digitalWrite(kPinLed2, LOW);

delay(delayTime);

digitalWrite(kPinLed3, LOW);

delay(delayTime);

digitalWrite(kPinLed4, LOW);

delay(delayTime);

digitalWrite(kPinLed5, LOW);

delay(delayTime);

digitalWrite(kPinLed6, LOW);

delay(delayTime);

digitalWrite(kPinLed7, LOW);

delay(delayTime);

digitalWrite(kPinLed8, LOW);

delay(delayTime);

digitalWrite(kPinLed9, LOW);

delay(delayTime);

digitalWrite(kPinLed10, LOW);

delay; 2000;

}

// turn on each of the LEDs in anticlockwise order

for (int i = 0; i < 2; i++)

{

digitalWrite(kPinLed10, HIGH);

delay(delayTime);

digitalWrite(kPinLed9, HIGH);

delay(delayTime);

digitalWrite(kPinLed8, HIGH);

delay(delayTime);

digitalWrite(kPinLed7, HIGH);

delay(delayTime);

digitalWrite(kPinLed6, HIGH);

delay(delayTime);

digitalWrite(kPinLed5, HIGH);

delay(delayTime);

digitalWrite(kPinLed4, HIGH);

delay(delayTime);

digitalWrite(kPinLed3, HIGH);

delay(delayTime);

digitalWrite(kPinLed2, HIGH);

delay(delayTime);

digitalWrite(kPinLed1, HIGH);

delay(delayTime);

// turn off each of the LEDs in anticlockwise order

digitalWrite(kPinLed10, LOW);

delay(delayTime);

digitalWrite(kPinLed9, LOW);

delay(delayTime);

digitalWrite(kPinLed8, LOW);

delay(delayTime);

digitalWrite(kPinLed7, LOW);

delay(delayTime);

digitalWrite(kPinLed6, LOW);

delay(delayTime);

digitalWrite(kPinLed5, LOW);

delay(delayTime);

digitalWrite(kPinLed4, LOW);

delay(delayTime);

digitalWrite(kPinLed3, LOW);

delay(delayTime);

digitalWrite(kPinLed2, LOW);

delay(delayTime);

digitalWrite(kPinLed1, LOW);

delay; 2000;

}

// turns on/off dual opposites in clockwise order

for (int i = 0; i < 2; i++)

{

digitalWrite(kPinLed1, HIGH);

digitalWrite(kPinLed6, HIGH);

delay(delayTime);

digitalWrite(kPinLed1, LOW);

digitalWrite(kPinLed6, LOW);

delay(delayTime);

digitalWrite(kPinLed2, HIGH);

digitalWrite(kPinLed7, HIGH);

delay(delayTime);

digitalWrite(kPinLed2, LOW);

digitalWrite(kPinLed7, LOW);

delay(delayTime);

digitalWrite(kPinLed3, HIGH);

digitalWrite(kPinLed8, HIGH);

delay(delayTime);

digitalWrite(kPinLed3, LOW);

digitalWrite(kPinLed8, LOW);

delay(delayTime);

digitalWrite(kPinLed4, HIGH);

digitalWrite(kPinLed9, HIGH);

delay(delayTime);

digitalWrite(kPinLed4, LOW);

digitalWrite(kPinLed9, LOW);

delay(delayTime);

digitalWrite(kPinLed5, HIGH);

digitalWrite(kPinLed10, HIGH);

delay(delayTime);

digitalWrite(kPinLed5, LOW);

digitalWrite(kPinLed10, LOW);

delay(delayTime);

digitalWrite(kPinLed1, HIGH);

digitalWrite(kPinLed6, HIGH);

delay(delayTime);

digitalWrite(kPinLed1, LOW);

digitalWrite(kPinLed6, LOW);

delay; 2000;

// turns on/off dual opposites in anticlockwise order

digitalWrite(kPinLed5, HIGH);

digitalWrite(kPinLed10, HIGH);

delay(delayTime);

digitalWrite(kPinLed5, LOW);

digitalWrite(kPinLed10, LOW);

delay(delayTime);

digitalWrite(kPinLed9, HIGH);

digitalWrite(kPinLed4, HIGH);

delay(delayTime);

digitalWrite(kPinLed9, LOW);

digitalWrite(kPinLed4, LOW);

delay(delayTime);

digitalWrite(kPinLed8, HIGH);

digitalWrite(kPinLed3, HIGH);

delay(delayTime);

digitalWrite(kPinLed8, LOW);

digitalWrite(kPinLed3, LOW);

delay(delayTime);

digitalWrite(kPinLed7, HIGH);

digitalWrite(kPinLed2, HIGH);

delay(delayTime);

digitalWrite(kPinLed7, LOW);

digitalWrite(kPinLed2, LOW);

delay(delayTime);

digitalWrite(kPinLed6, HIGH);

digitalWrite(kPinLed1, HIGH);

delay(delayTime);

digitalWrite(kPinLed6, LOW);

digitalWrite(kPinLed1, LOW);

delay(delayTime);

digitalWrite(kPinLed5, HIGH);

digitalWrite(kPinLed10, HIGH);

delay(delayTime);

digitalWrite(kPinLed5, LOW);

digitalWrite(kPinLed10, LOW);

delay; 2000;

// turns on/off quad opposites in clockwise order

for (int i = 0; i < 2; i++)

{

digitalWrite(kPinLed1, HIGH);

digitalWrite(kPinLed6, HIGH);

digitalWrite(kPinLed3, HIGH);

digitalWrite(kPinLed8, HIGH);

delay(delayTime);

digitalWrite(kPinLed1, LOW);

digitalWrite(kPinLed6, LOW);

digitalWrite(kPinLed3, LOW);

digitalWrite(kPinLed8, LOW);

delay(delayTime);

digitalWrite(kPinLed2, HIGH);

digitalWrite(kPinLed7, HIGH);

digitalWrite(kPinLed4, HIGH);

digitalWrite(kPinLed9, HIGH);

delay(delayTime);

digitalWrite(kPinLed2, LOW);

digitalWrite(kPinLed7, LOW);

digitalWrite(kPinLed4, LOW);

digitalWrite(kPinLed9, LOW);

delay(delayTime);

digitalWrite(kPinLed3, HIGH);

digitalWrite(kPinLed8, HIGH);

digitalWrite(kPinLed5, HIGH);

digitalWrite(kPinLed10, HIGH);

delay(delayTime);

digitalWrite(kPinLed3, LOW);

digitalWrite(kPinLed8, LOW);

digitalWrite(kPinLed5, LOW);

digitalWrite(kPinLed10, LOW);

delay(delayTime);

digitalWrite(kPinLed4, HIGH);

digitalWrite(kPinLed9, HIGH);

digitalWrite(kPinLed6, HIGH);

digitalWrite(kPinLed1, HIGH);

delay(delayTime);

digitalWrite(kPinLed4, LOW);

digitalWrite(kPinLed9, LOW);

digitalWrite(kPinLed6, LOW);

digitalWrite(kPinLed1, LOW);

delay(delayTime);

digitalWrite(kPinLed5, HIGH);

digitalWrite(kPinLed10, HIGH);

digitalWrite(kPinLed7, HIGH);

digitalWrite(kPinLed2, HIGH);

delay(delayTime);

digitalWrite(kPinLed5, LOW);

digitalWrite(kPinLed10, LOW);

digitalWrite(kPinLed7, LOW);

digitalWrite(kPinLed2, LOW);

delay(delayTime);

digitalWrite(kPinLed6, HIGH);

digitalWrite(kPinLed1, HIGH);

digitalWrite(kPinLed8, HIGH);

digitalWrite(kPinLed3, HIGH);

delay(delayTime);

digitalWrite(kPinLed6, LOW);

digitalWrite(kPinLed1, LOW);

digitalWrite(kPinLed8, LOW);

digitalWrite(kPinLed3, LOW);

delay(delayTime);

digitalWrite(kPinLed7, HIGH);

digitalWrite(kPinLed2, HIGH);

digitalWrite(kPinLed9, HIGH);

digitalWrite(kPinLed4, HIGH);

delay(delayTime);

digitalWrite(kPinLed7, LOW);

digitalWrite(kPinLed2, LOW);

digitalWrite(kPinLed9, LOW);

digitalWrite(kPinLed4, LOW);

delay(delayTime);

digitalWrite(kPinLed8, HIGH);

digitalWrite(kPinLed3, HIGH);

digitalWrite(kPinLed10, HIGH);

digitalWrite(kPinLed5, HIGH);

delay(delayTime);

digitalWrite(kPinLed8, LOW);

digitalWrite(kPinLed3, LOW);

digitalWrite(kPinLed10, LOW);

digitalWrite(kPinLed5, LOW);

delay(delayTime);

digitalWrite(kPinLed9, HIGH);

digitalWrite(kPinLed4, HIGH);

digitalWrite(kPinLed1, HIGH);

digitalWrite(kPinLed6, HIGH);

delay(delayTime);

digitalWrite(kPinLed9, LOW);

digitalWrite(kPinLed4, LOW);

digitalWrite(kPinLed1, LOW);

digitalWrite(kPinLed6, LOW);

delay(delayTime);

digitalWrite(kPinLed10, HIGH);

digitalWrite(kPinLed5, HIGH);

digitalWrite(kPinLed2, HIGH);

digitalWrite(kPinLed7, HIGH);

delay(delayTime);

digitalWrite(kPinLed10, LOW);

digitalWrite(kPinLed5, LOW);

digitalWrite(kPinLed2, LOW);

digitalWrite(kPinLed7, LOW);

delay(delayTime);

delay; 2000;

// turns on/off quad opposites in anticlockwise order

digitalWrite(kPinLed10, HIGH);

digitalWrite(kPinLed5, HIGH);

digitalWrite(kPinLed2, HIGH);

digitalWrite(kPinLed7, HIGH);

delay(delayTime);

digitalWrite(kPinLed10, LOW);

digitalWrite(kPinLed5, LOW);

digitalWrite(kPinLed2, LOW);

digitalWrite(kPinLed7, LOW);

delay(delayTime);

digitalWrite(kPinLed9, HIGH);

digitalWrite(kPinLed4, HIGH);

digitalWrite(kPinLed1, HIGH);

digitalWrite(kPinLed6, HIGH);

delay(delayTime);

digitalWrite(kPinLed9, LOW);

digitalWrite(kPinLed4, LOW);

digitalWrite(kPinLed1, LOW);

digitalWrite(kPinLed6, LOW);

delay(delayTime);

digitalWrite(kPinLed8, HIGH);

digitalWrite(kPinLed3, HIGH);

digitalWrite(kPinLed10, HIGH);

digitalWrite(kPinLed5, HIGH);

delay(delayTime);

digitalWrite(kPinLed8, LOW);

digitalWrite(kPinLed3, LOW);

digitalWrite(kPinLed10, LOW);

digitalWrite(kPinLed5, LOW);

delay(delayTime);

digitalWrite(kPinLed7, HIGH);

digitalWrite(kPinLed2, HIGH);

digitalWrite(kPinLed9, HIGH);

digitalWrite(kPinLed4, HIGH);

delay(delayTime);

digitalWrite(kPinLed7, LOW);

digitalWrite(kPinLed2, LOW);

digitalWrite(kPinLed9, LOW);

digitalWrite(kPinLed4, LOW);

delay(delayTime);

digitalWrite(kPinLed6, HIGH);

digitalWrite(kPinLed1, HIGH);

digitalWrite(kPinLed8, HIGH);

digitalWrite(kPinLed3, HIGH);

delay(delayTime);

digitalWrite(kPinLed6, LOW);

digitalWrite(kPinLed1, LOW);

digitalWrite(kPinLed8, LOW);

digitalWrite(kPinLed3, LOW);

delay(delayTime);

digitalWrite(kPinLed5, HIGH);

digitalWrite(kPinLed10, HIGH);

digitalWrite(kPinLed7, HIGH);

digitalWrite(kPinLed2, HIGH);

delay(delayTime);

digitalWrite(kPinLed5, LOW);

digitalWrite(kPinLed10, LOW);

digitalWrite(kPinLed7, LOW);

digitalWrite(kPinLed2, LOW);

delay(delayTime);

digitalWrite(kPinLed4, HIGH);

digitalWrite(kPinLed9, HIGH);

digitalWrite(kPinLed6, HIGH);

digitalWrite(kPinLed1, HIGH);

delay(delayTime);

digitalWrite(kPinLed4, LOW);

digitalWrite(kPinLed9, LOW);

digitalWrite(kPinLed6, LOW);

digitalWrite(kPinLed1, LOW);

delay(delayTime);

digitalWrite(kPinLed3, HIGH);

digitalWrite(kPinLed8, HIGH);

digitalWrite(kPinLed5, HIGH);

digitalWrite(kPinLed10, HIGH);

delay(delayTime);

digitalWrite(kPinLed3, LOW);

digitalWrite(kPinLed8, LOW);

digitalWrite(kPinLed5, LOW);

digitalWrite(kPinLed10, LOW);

delay(delayTime);

digitalWrite(kPinLed2, HIGH);

digitalWrite(kPinLed7, HIGH);

digitalWrite(kPinLed4, HIGH);

digitalWrite(kPinLed9, HIGH);

delay(delayTime);

digitalWrite(kPinLed2, LOW);

digitalWrite(kPinLed7, LOW);

digitalWrite(kPinLed4, LOW);

digitalWrite(kPinLed9, LOW);

delay(delayTime);

digitalWrite(kPinLed1, HIGH);

digitalWrite(kPinLed6, HIGH);

digitalWrite(kPinLed3, HIGH);

digitalWrite(kPinLed8, HIGH);

delay(delayTime);

digitalWrite(kPinLed1, LOW);

digitalWrite(kPinLed6, LOW);

digitalWrite(kPinLed3, LOW);

digitalWrite(kPinLed8, LOW);

delay(delayTime);

}}}