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/*
UNI_RELAY_Pametove rele
Vstupem 1 preklopi stav vystupniho rele

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Zapojeni:
Deska: UNI_RELAY_2.2
*/

// Inicializace vstupu.
int In1 = 5;      //Atmega 168 pin 9 (PD5)
int In3 = 2;      //Atmega 168 pin 32 (PD2)
int In2 = 3;      //Atmega 168 pin 1 (PD3)
int In4 = 4;      //Atmega 168 pin 2 (PD4)

// Inicializace vystupu.
int Out1 = 8;     //Atmega 168 pin 12 (PB0)
int Out2 = 7;     //Atmega 168 pin 11 (PD7)
int Out3 = 6;     //Atmega 168 pin 10 (PD6)
int Beep = 9;     //Atmega 168 pin 13 (PB1)
int Rele = 10;    //Atmega 168 pin 14 (PB2)

// Inicializace pomocnych konstant
//int Val = 0;     // variable to store the read value

int buttonPushCounter = 0; // counter for the number of button presses
int buttonState = 0;       // current state of the button
int lastButtonState = 0;   // previous state of the button

// zaklad programu po resetu.
void setup() {

    // nastavení digitalnich pinu jako vstupy.
    pinMode(In1, INPUT);
    pinMode(In2, INPUT);
    pinMode(In3, INPUT);
    pinMode(In4, INPUT);

    // nastavení digitalnich pinu jako vystupy.
    pinMode(Out1, OUTPUT);
    pinMode(Out2, OUTPUT);
    pinMode(Out3, OUTPUT);
    pinMode(Beep, OUTPUT);
    pinMode(Rele, OUTPUT);

    Serial.begin(9600);

}

// smycka programu nekonecne opakovani
void loop() {

    // read the pushbutton input pin:
    buttonState = digitalRead(In1);

    // compare the buttonState to its previous state
    if (buttonState != lastButtonState) {
        // if the state has changed, increment the counter

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if (buttonState == HIGH) {
  // if the current state is HIGH then the button
  // went from off to on:
  buttonPushCounter++;
  Serial.println("on");
  Serial.print("number of button pushes:  ");
  Serial.println(buttonPushCounter);
}
else {
  // if the current state is LOW then the button
  // went from on to off:
  Serial.println("off");
}
}
// save the current state as the last state,
//for next time through the loop
lastButtonState = buttonState;

// turns on the LED every four button pushes by
// checking the modulo of the button push counter.
// the modulo function gives you the remainder of
// the division of two numbers:
if (buttonPushCounter % 4 == 0) {
  digitalWrite(Out1, HIGH);
} else {
  digitalWrite(Out1, LOW);
}

}
```