Button to LED and Buzzer

URL to video demo:

<https://drive.google.com/file/d/1ADzzbo0VSZOGyX6NIzrWmiYWcL4gaWCk/view?usp=sharing>

Code:

//when you press the button, the LED lights and the buzzer plays a short song

//for the music:

int speakerPin = 5; //Buzzer attached to Pin D5; if you move the buzzer to another pin change this number

int length = 15; //the number of notes

char notes[] = "ccggaagffeeddc "; //a space represents a rest

int beats[] = { 1, 1, 1, 1, 1, 1, 2, 1, 1, 1, 1, 1, 1, 2, 4 };

int tempo = 300;

//for button:

const int buttonPin = 6; //the number of the pushbutton pin

const int ledPin = 4; //the number of the LED pin

// variables will change:

int buttonState = 0; //variable for reading the pushbutton status

void setup() {

Serial.begin(9600); //start the Serial connection (helps you debug your code)

pinMode(speakerPin, OUTPUT);

//initialize the LED pin as an output:

 pinMode(ledPin, OUTPUT);

 //initialize the pushbutton pin as an input:

 pinMode(buttonPin, INPUT);

}

void playTone(int tone, int duration) {

for (long i = 0; i < duration \* 1000L; i += tone \* 2) {

digitalWrite(speakerPin, HIGH);

delayMicroseconds(tone);

digitalWrite(speakerPin, LOW);

delayMicroseconds(tone);

}

}

void playNote(char note, int duration) {

char names[] = { 'c', 'd', 'e', 'f', 'g', 'a', 'b', 'C' };

int tones[] = { 1915, 1700, 1519, 1432, 1275, 1136, 1014, 956 };

for (int i = 0; i < 8; i++) {

if (names[i] == note) {

playTone(tones[i], duration);

}

}

}

void loop() {

buttonState = digitalRead(buttonPin);

if (buttonState == HIGH) {

digitalWrite(ledPin, HIGH);

for (int i = 0; i < length; i++) {

playNote(notes[i], beats[i] \* tempo);

}

} else {

 digitalWrite(ledPin, LOW);

}

}