Arduino Forum

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Title: **Melody Tone - Happy Birthday Project (No Need AtMega chip)**
Post by: **onglityit** on **Jul 20, 2013, 01:05 pm**

Code: [Select]

```
//ONG LIT YIT 2013-07-20
//This following code plays happy birthday melody on Arduino
//Put Piezo Buzzer on GDN and 9 (Positive and negative are reversible)
//this project requires a Piezo Buzzer and

// an Arduino board and

//jumper wires to connect Buzzer's (+) to ~9 and (-) to GND (any GND)

//HAVE FUN

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//HAVE FUN

int speakerPin = 9;

int length = 28; // the number of notes

char notes[] = "GGAGcB GGAGdc GGxecBA yyecdc";

int beats[] = { 2, 2, 8, 8, 8, 16, 1, 2, 2, 8, 8,8, 16, 1, 2,2,8,8,8,8,16, 1,2,2,8,8,8,16 };

int tempo = 150;

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', 'd', 'e', 'f', 'g', 'a', 'b',

                'x', 'y' };

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

                956,  834,  765,  593,  468,  346,  224,

                655 , 715 };

int SPEE = 5;

// play the tone corresponding to the note name
```

```
for (int i = 0; i < 17; i++) {

   if (names[i] == note) {
    int newduration = duration/SPEE;
     playTone(tones[i], newduration);

   }

}

}

void setup() {

pinMode(speakerPin, OUTPUT);

}

void loop() {

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

   if (notes[i] == ' ') {

     delay(beats[i] * tempo); // rest

   } else {

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

   }

   // pause between notes

   delay(tempo);

}

}
```