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);

}

}