//Include LCD library

#include <LiquidCrystal.h>

// initialize the library with the numbers of the interface pins

LiquidCrystal lcd(12, 11, 5, 4, 3, 2);

int speakerPin= 9;

int length=53; //number of notes

char notes[]= "gagegageEEbCCgDDbCCgDaaCbagageaaCbagageDDFDbCECgegfdc ";

int beats[]={2,1,1,3,2,1,1,3,2,2,3,2,2,1,3,2,1,3,2,1,3,1,1,2,1,1,2,2,1,2,1,1,2,1,1,3,2,1,2,1,1,3,3,1,1,1,2,1,1,1,2,1,1};

int tempo = 300;

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'};

int tones[] = { 1915, 1700, 1519, 1432, 1275, 1136, 1014, 956, 850, 759,716 };

// play the tone corresponding to the note name

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

if (names[i] == note) {

playTone(tones[i], duration);

}

}

}

void setup() {

// set up the LCD's number of columns and rows:

lcd.begin(16, 2);

// Print a message to the LCD.

lcd.print("Merry Christmas !");

pinMode(speakerPin, OUTPUT);

}

void loop() {

// set the cursor to column 0, line 1

// (note: line 1 is the second row, since counting begins with 0):

lcd.setCursor(0, 1);

//Print a message to second line of LCD

lcd.print("Happy New Year ");

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 / 2);

}

}