Arduino Dance Party!

Time required: 60 minutes

The mBot can appear to be playing a song and moving at the same time. It looks like the mBot is dancing to the music. You will want a catchy song.

Here is a web site to get you started with a known song. https://noobnotes.net

Requirements

- Add this to your Arduino Default Program. Save it as **Default_Program_Dance_Party**.
- You will want to use **notes.h** and your **movement.h** file.
- Spin in circles, wiggle back and forth, make turns, move forward and backward, etc.
- **Movement function without a parameter:** The music will keep playing while the mBot moves. The mBot will keep moving until you change to another movement or stop.
- **Movement function with a parameter:** The music will stop and wait until the movement is complete.
- **Slow song:** If you use a slow song, it can have more movements changes per number of notes played.
- **Fast song:** If you use a fast song, it would have less movement changes per the number of notes played.
- You do not have to do the whole song, just a part of it.
- The music dance party should last a minimum of 15 seconds.
- Comment your code. Please put the name of the song in the comments.

Examples

Be creative: Find your own song and your own path!

- 11/19/18 I wish you a merry mBot Christmas from Andrew
- 11/19/18 4 mBots moving and playing Mario!

```
//-------------------------------------------------------------------------------------------
// Music Dance Party function Imperial March
// This is a slow song, it can have more movements changes per number of notes played
// A fast song would need less movement changes per the number of notes played
//-------------------------------------------------------------------------------------------
void musicDanceParty() {
  if (modeFlag == 4) {
    delay(1000);
    forward();
    playNote(noteA4, HN);
    playNote(noteA4, HN);
    left();
    playNote(noteA4, HN);
    playNote(noteF4, EN3);
    playNote(noteC5, EN);
    right();
    playNote(noteA4, HN);
    playNote(noteF4, EN3);
    playNote(noteC5, EN);
    right();
    playNote(noteA4, HN);
    stop();
    modeFlag = 0;         // Stop the dance party, return to remote control
  }
}
```

Assignment Submission

- **All students** → Attach finished programs to the assignment in Blackboard.
- **In class assignment submission** → Demonstrate in person.
- **Online submission** → A link to a YouTube video recording showing the assignment placed in the submission area in BlackBoard.