Sample (Partial) Test Plan for Project 2: MP3 Player

**Testcase #1:**
Function: displayPlaylist  
Test precondition: Music player is empty  
Test data: N/A  
Expected behavior: Prints “Music player is empty.”

**Testcase #2:**
Function: addSong  
Test precondition: Music player is empty  
Test data: New song with valid title, artist, size, lyrics  
Expected behavior: New song is added to the playlist (tested with call to displayPlaylist)

**Testcase #3:**
Function: addSong  
Test precondition: N/A  
Test data: New song with negative song size  
Expected behavior: Program re-prompts for song size

**Testcase #4:**
Function: addSong  
Test precondition: Music player has at least 1 song, named “B Second”  
Test data: New song named “B Second”  
Expected behavior: Error message printed: “ERROR: new song title must be unique”  
Song is not added to the playlist (verified with displayPlaylist call)

**Testcase #5:**
Function: addSong  
Test precondition: Music player has at least 1 song  
Test data: New song whose title is alphabetically after all the songs in the player  
Expected behavior: Song is added to end of the playlist (tested with displayPlaylist call)

**Testcase #6:**
Function: addSong  
Test precondition: Music player has at least 1 song  
Test data: New song whose title is alphabetically before all songs in the player  
Expected behavior: Song is added to the front of the playlist (tested with displayPlaylist call)

**Testcase #7:**
Function: addSong  
Test precondition: Music player has at least 2 songs  
Test data: New song whose title alphabetically lies between two existing songs  
Expected behavior: Song is added between the two songs (tested with displayPlaylist call)
**Testcase #8:**
Function: addSong
Test precondition: Music player has 5.1 MB remaining space
Test data: New song of size 5.2 MB
Expected behavior: Error message printed: “ERROR: new song cannot fit in memory”
Song is not added to the playlist (verified with displayPlaylist call)

**Testcase #9:**
Function: playSong
Test precondition: Music player does not have a song called “E Fifth”
Test data: “E Fifth”
Expected behavior: Error message printed: “ERROR: that song is not in the music player”

**Testcase #10:**
Function: playSong
Test precondition: Music player has a song called C Third, by artist Artist 4, lyrics “lyrics c”
Test data: “C Third” with a playcount of 0
Expected behavior: Program prints:
NOW PLAYING: C Third by Artist 4
~~~ "lyrics c" ~~~
Program increments C Third playcount to 1 (verified by call to displayMetadata)

**Testcase #11:**
Function: displayMetadata
Test precondition: Music player has a song called C Third, by artist Artist 4, lyrics “lyrics c”, size 14.2 MB, which has been played once
Test data: “C Third”
Expected behavior: Program prints:
SONG INFO:
title: C Third
artist: Artist 4
size: 14.2 MB
play count: 1

**Testcase #12:**
Function: removeSong
Test precondition: Music player does not have a song called “F Sixth”
Test data: “F Sixth”
Expected behavior: Error message printed: “ERROR: that song is not in the music player”

**Testcase #13:**
Function: removeSong
Test precondition: Music player has a song called A First that is in the first slot of the playlist
Test data: “A First”
Expected behavior: The first entry in the player is removed (verified by call to displayPlaylist)