

```
1  import org.junit.Test;
2
3  import java.util.LinkedList;
4  import java.util.List;
5
6  import static org.junit.Assert.*;
7
8  public class ServerTest {
9
10     @Test
11     public void addSong() {
12         Server server = Server.getInstance();
13         server.addSong("Title1", "Artist1", "Album1", 1, 180);
14
15         Song searchedSong = server.searchById(1);
16         assertNotNull(searchedSong);
17         assertEquals("Title1", searchedSong.getTitle());
18         assertEquals("Artist1", searchedSong.getArtist());
19         assertEquals("Album1", searchedSong.getAlbum());
20         assertEquals(180, searchedSong.getDuration());
21
22         List<Song> songsByTitle = server.searchByTitle("Title1");
23         assertNotNull(songsByTitle);
24         assertEquals(1, songsByTitle.size());
25         assertEquals("Title1", songsByTitle.get(0).getTitle());
26
27         List<Song> songsByAlbum = server.searchByAlbum("Album1");
28         assertNotNull(songsByAlbum);
29         assertEquals(1, songsByAlbum.size());
30         assertEquals("Album1", songsByAlbum.get(0).getAlbum());
31     }
32
33     @Test
34     public void searchById() {
35         Server server = Server.getInstance();
36
37         Song testSong = new Song("Test Song", "Test Artist", "Test Album", -1, 120);
38         server.addSong("Test Song", "Test Artist", "Test Album", -1, 120);
39
40         Song result = server.searchById(-1);
41
42         assertEquals(testSong.getTitle(), result.getTitle());
43     }
44
45     @Test
46     public void searchByTitle() {
47         Server server = Server.getInstance();
48
49         List<Song> testSong = new LinkedList<Song>();
50         testSong.addFirst(new Song("Test Song", "Test Artist", "Test Album", 1, 120));
51         server.addSong("Test Song", "Test Artist", "Test Album", 1, 120);
52
53         List<Song> result = server.searchByTitle("Test Song");
54     }
```

```

54
55     assertEquals(testSong.getFirst().getTitle(), result.getFirst().getTitle());
56 }
57
58 @Test
59 public void searchByAlbum() {
60     Server server = Server.getInstance();
61
62     List<Song> testSong = new LinkedList<Song>();
63     testSong.addFirst(new Song("Test Song", "Test Artist", "Test Album", 1, 120));
64     server.addSong("Test Song", "Test Artist", "Test Album", 1, 120);
65
66     List<Song> result = server.searchByAlbum("Test Album");
67
68     assertEquals(testSong.getFirst().getTitle(), result.getFirst().getTitle());
69 }
70
71 @Test
72 public void getInstance() {
73     Server instance1 = Server.getInstance();
74     Server instance2 = Server.getInstance();
75
76     assertEquals(instance1, instance2);
77
78     assertNotNull(instance1);
79     assertNotNull(instance2);
80 }
81 }

```