DSA521S GROUP ASSIGNMENT SHEET

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Part A

Initialize music player

Initialize playlist

Initialize repeat function

Initialize track list

Initialize search

Initialize add/remove function

Function to createPlaylist()

Tracks = 100;

LinkedList = create new linked list()

For I <= 0 to tracks -1

Do addTrack (linked list, i)

End for

Return linked list

End function

Function playTrack (linkedList, trackNumber)

Current track <= linked.list.head

For I <= 0 to tackNumber -1

Do current track <= currentTrack.next

End for

Play audio (currentTrack.data)

End function

Function adds track (linked list, trackNumber)

New track<= create new track (trackNumber)

If linked.list.head = null then

Linked.list.head <= new track

Else

Current track <= linked.list.head

While current.track.next != null

Do current.track.next <= currentTrack.next

End if

End function

Function to remove track (linked list, trachNumber)

Current track <= linked.list.head

Previos track <= null

For i <= 0 to track number -1

Do previous track <= current track

Current track <= current.track.next

End for

If previose track = null

Linked.list.next = current.track.next

Else

Previous.track.next <= current.track.next

End if

End function

Function search playlist (linked list, tracknumber)

Current track <= linked.list.next

While current track != null

Do if current.track.data = track number

Return true

End if

Current track = current.track.next

End while

Return false

End function

Part B

```java
public class musicplayer {

public static void main(String[] args) {

}

public final class DoubleClass<Music> {

private Music data;

private DoubleClass<Music> next;

private DoubleClass<Music> prev;

public DoubleClass(final DoubleClass<Music> prev, final Music data, final
DoubleClass<Music> next) {

this.data = data;

this.next = next;
```

```java
        this.prev = prev;
    }
    public DoubleClass(final Music data) {
        this(null, data, null);
    }
    public Music getData() {
        return data;
    }
    public DoubleClass<Music> getNext() {
        return next;
    }
    public void setTheNextTrack(final DoubleClass<Music> next) {
        this.next = next;
    }
    public void setThePreviousTrack(final DoubleClass<Music> prev){
        this.prev = prev;
    }
    public DoubleClass<Music> getPrev() {
        return prev;
    }
    public void addTracks(final Music data) {
        this.data = data;
    }
}
```

```
}
```