

ECE250 - Project 0

Playlist Driver

Design Document

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Overview of Classes

Class:

Playlist

Description:

Represents songs as an array, array, and provides operations associated with the playlist i.e. to set maximum size, add song, play song, erase song from playlist.

Member Variables:

- size: maximum size of the array
- n: index of the song in the playlist
- songs: array of songs in the playlist
- NumSongs: number of songs stored
- flag: used in a function as a flag in a for loop

Member Functions (operations):

- AddSong: Adds the song in the array
- play: Plays song at index n
- Erase: erases song at index n

UML Class Diagram

Playlist
size: int n: int songs: list NumSongs: int flag: int
AddSong(TitleArtist: string): void play(i: int): void erase(n: int): void

Constructors/Destructors/Operator Overloading

Constructor: Sets the maximum size of song list

Destructors: It cleans up the memory pointer by song list, it deletes the dynamic array of Songs

Test Cases

Test1.in

m 10

i 1;1

i 2;2

i 3;3

p 1

p 2

p 3

e 2

p 1

p 2

p 3

Test2.in

m 100

i Mamma Mia;Abba

i The Winner Takes it All;Abba i Dancing Queen;Abba

i Honey Honey;Abba

i We Will Rock You;Queen

i Venus;Bananarama

i Crocodile Rock;Elton John

i All that she wants;Ace of Base

i Night and Day;Frank Sinatra

i Downtown;Petula Clark

p3

p5

p1

i We are the champions;Queen

i Somebody to love;Queen

i I heard a rumor;Bananarama

i I can't help it;Bananarama

i Shy Boy;Bananarama

i Daniel;Elton John

i Rocket Man;Elton John

i Candle in the wind;Elton John

i Sacrifice;Elton John

i That is what friends are for;Elton John p 18

p 20

p 25

Source: <https://github.com/ece23/ECE250-testCases/blob/master/p0/test4.in>