Design-P1

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Classes: I designed two classes in this project. The first class the "Song" class. It has two member variables which are title and artist. The other one is "Playlist" class. This class contains a vector member variable, and the variable type inside the vector is Song. There are also four functions in this class.

Member functions:

a. search function: this is a function which can check whether the input Song is already exist in the Playlist, it requires two string variables which represent title and artist as inputs, and the output type is bool.

b. newsong function: this is a function to add a new song to the playlist, it takes two string variables which represent title and artist as inputs, and there's no output(void).

c. play function: this function can output the specific song in the required position, it requires an integer as an input, and there's no output(void).

d. erase function: this function takes an integer as position of the Song, and it will erase the song in that position. It takes an integer as an input, and there's no output(void).

There's no constructor and destructor in this project.

Running time for each function:

Search: O(n)

Newsong :O(n) (because the execution of search is required in newsong function)

Play: O (1) ->constant

Erase: O(1) ->constant