Lab 6: Structure in C++ and Singly Linked Lists (Part 2 – Deletion & Searching)

Part C: Homework.

Submit your answer (*in doc / pdf*) to the Microsoft Teams. Do not submit the .cpp file in ZIP version due to unable to read the files from the Teams Software. Your answer should include your code and your program screenshot. Submission due date: ***19 September 2020 (10.00am)***.

1. Using the same scenario in Homework Lab Week 5:

   Create a music player system that having the current song list:

No	Artist	Song	Released	Genre	Length
1.	Celine Dion	Just Walk Away	1993	Pop	4.58
2.	Taylor Swift	You Belong With Me	2008	Pop	3.48
3.	The Cranberries	Promises	1999	Rock	4.30

   The previous lab 5 functionalities as below:

   - Insert to the beginning of song list
     - User able to insert a new song in the front of the list
   - Insert to the end of song list
     - User able to insert a new song at the end of the list
   - View the list without any sorting
     - User able to view the original song list after the insertion process.
   - View the list with sorted by song number
     - User able to sort the list based on the song number (*using the insert to sorted list concept*)

   Now, add the below new functions for the music player in Lab 6:
   - Delete a song from the beginning of the list
     - User able to delete a song from the beginning of the list

   Original output:

No	Artist	Song	Released	Genre	Length
4.	Maria Carey	All I Want For Christmas Is You	1994	Seasonal	3.55
1.	Celine Dion	Just Walk Away	1993	Pop	4.58
2.	Taylor Swift	You Belong With Me	2008	Pop	3.48
3.	The Cranberries	Promises	1999	Rock	4.30
5.	Selena Gomez, Kygo	It Ain't Me	2017	Dance-pop	3.41

Output after deletion:

No	Artist	Song	Released	Genre	Length
1.	Celine Dion	Just Walk Away	1993	Pop	4.58
2.	Taylor Swift	You Belong With Me	2008	Pop	3.48
3.	The Cranberries	Promises	1999	Rock	4.30
5.	Selena Gomez, Kygo	It Ain't Me	2017	Dance-pop	3.41

- Delete a song from the end of list
    - User able to delete a song from the end of the list

Original output:

No	Artist	Song	Released	Genre	Length
4.	Maria Carey	All I Want For Christmas Is You	1994	Seasonal	3.55
1.	Celine Dion	Just Walk Away	1993	Pop	4.58
2.	Taylor Swift	You Belong With Me	2008	Pop	3.48
3.	The Cranberries	Promises	1999	Rock	4.30
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3.	The Cranberries	Promises	1999	Rock	4.30

- Delete a song based on the Artist Name
    - User able to delete a song based on the Artist Name.

Original output:

No	Artist	Song	Released	Genre	Length
4.	Maria Carey	All I Want For Christmas Is You	1994	Seasonal	3.55
1.	Celine Dion	Just Walk Away	1993	Pop	4.58
2.	Taylor Swift	You Belong With Me	2008	Pop	3.48
3.	The Cranberries	Promises	1999	Rock	4.30
5.	Selena Gomez, Kygo	It Ain't Me	2017	Dance-pop	3.41

Output after deletion on artist named as "Taylor Swift":

No	Artist	Song	Released	Genre	Length
4.	Maria Carey	All I Want For Christmas Is You	1994	Seasonal	3.55
1.	Celine Dion	Just Walk Away	1993	Pop	4.58
3.	The Cranberries	Promises	1999	Rock	4.30
5.	Selena Gomez, Kygo	It Ain't Me	2017	Dance-pop	3.41

- Delete a song based on the song number
  - User able to delete a song based on a song number

Original output:

No	Artist	Song	Released	Genre	Length
4.	Maria Carey	All I Want For Christmas Is You	1994	Seasonal	3.55
1.	Celine Dion	Just Walk Away	1993	Pop	4.58
2.	Taylor Swift	You Belong With Me	2008	Pop	3.48
3.	The Cranberries	Promises	1999	Rock	4.30
5.	Selena Gomez, Kygo	It Ain't Me	2017	Dance-pop	3.41

Output after deletion on song number of 3:

No	Artist	Song	Released	Genre	Length
4.	Maria Carey	All I Want For Christmas Is You	1994	Seasonal	3.55
1.	Celine Dion	Just Walk Away	1993	Pop	4.58
2.	Taylor Swift	You Belong With Me	2008	Pop	3.48
5.	Selena Gomez, Kygo	It Ain't Me	2017	Dance-pop	3.41

- Search a song based on the genre of song
  - User able to search a song based on genre of song

Example output of searching pop songs from the list:

No	Artist	Song	Released	Genre	Length
1.	Celine Dion	Just Walk Away	1993	Pop	4.58
2.	Taylor Swift	You Belong With Me	2008	Pop	3.48