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**Program #1 Writeup**
**CS163**

This program assignment was difficult for me, but it was also satisfying. The goal was to create a linear link of a linked list that would allow users to keep track of the shows they were advised to watch. A collection of recommendations from many sources, including friends, the internet, and other places, would make up the linear linked list. The user's desired series would be listed in a linear linked list for each source.

To accomplish this task, I had to create two different node structs. The name of the source, a next pointer, and a head pointer to the list of series were all contained in the initial struct for the linked list of sources. The information about the series the user was thinking about watching was in the second node structure. The name of the show, the genre, the number of seasons, and the overall number of episodes had to be included in this format. To this struct, I have included another functionality of my own design. The user's preferred viewing sequence was taken into consideration when arranging these structures.

I used Classes and an ADT to manage the data structures provided in the assignment in order to develop the linear linked list. The following member functions were necessary for this class:

- Construct an object (constructor)

- Add a new Source

- Display all sources (just their names)

- Add a series recommended by a particular source

- Display all of the series recommended by a given source

- Remove a particular source from the list

- Release all dynamic memory (destructor)

- Display every series of a particular genre

Making the  constructor and destructor seemed to me to be a rather simple process. The process of adding a new source and adding a series that was suggested by a specific source, however, proved to be more difficult. I had to make sure the source wasn't used before and the series were added in the right order. To minimize the number of arguments put in, I also had to ensure that the series struct was distinct from the source struct.

It was difficult to list all sources, all recommended series from a given source, and all series belonging to a specific genre. I had to make sure the information was presented accurately and in the proper format. Additionally, I had to make sure that the user could properly input the source or genre name.

It was also difficult to eliminate a certain source from the list. I had to make sure that all of the dynamic memory was appropriately freed and that all of the pointers pointed in the right directions.

I thought this task was a great learning opportunity overall. I learnt how to do a double linked list. I also gained knowledge on proper dynamic memory management. Although the process was occasionally difficult, I was able to get through the difficulties and successfully finish the task. I am sure that the abilities and understanding I developed from this experience will be helpful in next tasks and initiatives.