**National University of Computer & Emerging Sciences (NUCES), Peshawar**

**Department of Computer Science**

**PROJECT OF:**

**Data Structures (Spring 2016)**

**By:**

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**Topic:**

**Movie Database:**

We have created a singly link list and then written following functions for it.

a. function to return the number of occurrences of a particular element in a linked list.

b. function to test if two linked lists are equal (i.e., have the same values in the same order).

c. function that returns a linked list that duplicates values from another linked list. E.g., paramList: (1 2 3); return value: (1 1 2 2 3 3)

d. Variation on the last problem: inserts duplicate values right into the original linked list.

e. function to rotate a linked list left by one; i.e., the old first element becomes the new last element. Does not called new or delete.

f.function to split a linked list into two lists at a specific point in the list. E.g., inList = (10 20 30 40 50) loc = 3, outlist1 = (10 20 30) outlist2 = (40 50)

g. function to merge together two ordered linked lists in one ordered link list.

h.function that returns the a linked list that is the intersection of two ordered linked lists in O(m+n)

(2)

In this question, we have created a movie database. The movie database contains list of movies along with the actors that worked in that particular movie. It is created using Linked List data structure.

Data for the movie database is provided to you in a file named “movie.txt.

We have make two link lists.

After we have constructed both linked lists, user will have two types of options to perform searching

1. Search by movie name

If the user enters a movie name then you will have to display all actors against that movie by performing search in the first linked list.

1. Search by actor name.

If the user opts for actor name then we need to display all the movies corresponding to that actor by performing search in the second linked list.

By constructing the above linked lists, we can also answer questions like:

1. On average how many films does an actor work in?
2. On average how many actors does a film typically has?