SSN COLLEGE OF ENGINEERING
DEPARTMENT OF CSE

DATA STRUCTURES LABORATORY (CS8381)

Ex. No. 2 Implementation of List ADT using arrays and pointers

1) Create a list ADT using arrays which can hold the books' details. The book details may contain *Book_id, Book_name, Book_genre, Author_name, Year_of_publishing.* Implement the following operations in the list ADT: *createn, insert, delete, find, count, sort and display.* Write a menu driven C program to perform the following:

a) Create *n* books in the list by inserting at the end of the list
b) Add a new book after a given book
c) Delete a particular book
d) Search a given book by name
e) Count the number of books under a particular genre
f) Sort the books by author name and display
g) Display list of books
h) Exit

Note: Allocate memory space dynamically wherever required.

2) Write a C program to implement the above application using singly linked list and compare the complexities with respect to insertion and deletion operation.

Note: 3 files need to be maintained.
1. Structure, type declarations, constants and function definitions
2. Function prototypes
3. Application