**SSN College of Engineering, Kalavakkam**

**Department of Computer Science and Engineering**

**III Semester - CSE**

# UCS 1312 Data Structures Lab Laboratory

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| **Academic Year: 2019-2020** | **Batch: 2018-2022** |

**Exercise 3: Student Information System using Doubly Linked List**

Create a personADT with the following fields

Person Identification Number (PIN) [should be a unique random number generated for each person while inserting the person’s record], Name, Age, Sex, Street Address, City, Mobile,

personList ADT has the implementations for the following operations

1. Insert a record in the front of the list

void insertFront(listADT l, person p)

1. Insert a record at the end of the list

void insertEnd(listADT l, person p)

1. Insert a record after a given PIN in the list

void insertPIN(listADT l, person p, int pin)

1. List the senior persons based on their age

listADT seniorPerson(listADT l)

1. List the adults based on their age

listADT adultPerson(listADT l)

1. List the persons based on the given location

listADT locatePerson(listADT l, char \* s)

1. Sort the persons based on their age in both ascending and descending order based on their age and display

void listSort(listADT l)

1. Number of persons in the list

int noPersons(listADT l)

1. Give the ratio of male versus female, where ratio is the structure containing male and female. (For example, it should be printed as 4:3)

Ratio adultPerson(listADT l)

1. Display the persons in the list

void listPersons(listADT l)

In order ro implement this Student Information System,

* It is necessary to create a file that has PersonList ADT and implementation of above-mentioned functions
* Another file will be created with only function prototypes
* One more file will be created to write the application using the PersonList ADT

**Note: Submit the code along with the output within the deadline**