

**SSN College of Engineering, Kalavakkam**  
**Department of Computer Science and Engineering**  
**III Semester - CSE**  
**UCS 1312 Data Structures Lab Laboratory**

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**Exercise 1: Student Information System using Array Implementation of list ADT**

**[CO1, K3]**

Create a StudentADT with the following fields

Set of students where each student contains Regno, Name, Mark1, Mark2, Mark3,  
Total, Result

StudentList ADT has the implementations for the following operations

1. Insert a record in the front of the list  
`void insertFront(listADT l, student s)`
2. Insert a record at the end of the list  
`void insertEnd(listADT l, student s)`
3. Insert a record after a given Regno in the list  
`void insertRegNo(listADT l, student s, int regNum)`
4. List the details of students based on name of the student  
`listADT searchName(listADT l, char name[])`
5. Delete record given a register number  
`void delete(listADT l, int regNum)`
6. Calculate the Total and update the Result field about whether he / she is passed or not  
`void computeResult(listADT l)`
7. List the students who have passed  
`student* listResult(listADT l)`
8. List the students how many have secured First Class  
`int listClass(listADT l)`

In order to implement this Student Information System,

- It is necessary to create a file that has StudentList 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 Student Information System using the StudentList ADT