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Problem 4: **Case Study of Doubly Linked List**: Write a modular program to keep record of your society where you are presently residing. A record must contain the following attributes.

1. Aadhar Card Number/Social Security Number (Primary Key)
2. Name of Person
3. Gender
4. Father’s Name
5. Mother’s Name
6. Date of Birth

Define the following Methods/Functions

1. Insert a record in the database
2. Delete a record from the database
3. Update a record
4. Keep the record in sorted order (Desired Location Insertion in the data base will important)
5. Find/Search a record in the database
6. Generate Report of desired attribute (Complete Report based on the Aadhar Card Number, Partial Report using the any other attribute of the record).

Use Doubly Linked List Data Structure to define the database. User Interface is required bind all the methods together.

User Interface (This module links all the methods in the program. It provides interface to user to interact with rest of the program and database)

1

**Insert:** This block receives the information about a person and access the database to insert/add the received record into the database.

2

**Update:** This block receives the Aadhar Card Number of a person for whom information required to be updated.

4

**Delete**: This block receives the Aadhar Card Number of a person to whom we want to deregister/remove from the database.

3

**Search:** Search Method based on the Aadhar Card Number

5

Database

**Report:** Search a record based on

* Aadhar Card Number
* Gender
* Name
* Etc. 6.

5

Figure 1: Block Diagram

Note: A Temporary Doubly Linked List will be created for every operation specially when report generated