Statewide Individuals Data Management System

```
1   // Populate Aadhar list
2   aadharList = insertAadhar(aadharList, "Aditi", "123 Main St", "A123");
3   aadharList = insertAadhar(aadharList, "Arnav", "456 Elm St", "A456");
4   aadharList = insertAadhar(aadharList, "Sarthak", "789 Oak St", "A789");
5   aadharList = insertAadhar(aadharList, "Aleena", "101 Pine St", "A101");
6   aadharList = insertAadhar(aadharList, "Mayank", "202 Maple St", "A202");
7   aadharList = insertAadhar(aadharList, "Abhinav", "303 Cedar St", "A303");
8
9   // Populate PAN list
10  panList = insertPAN(panList, aadharList, "Aditi", "123 Main St", "P123", "A123");
11  panList = insertPAN(panList, aadharList, "Aditi", "123 Main St", "P124", "A123");
12  panList = insertPAN(panList, aadharList, "Sarthak", "789 Oak St", "P789", "A789");
13  panList = insertPAN(panList, aadharList, "Aleena", "101 Pine St", "P101", "A101");
14  panList = insertPAN(panList, aadharList, "Mayank", "202 Maple St", "P202", "A202");
15  panList = insertPAN(panList, aadharList, "Abhinav", "303 Cedar St", "P303", "A303");
16  panList = insertPAN(panList, aadharList, "Abhinav", "303 Cedar St", "P304", "A303");
17
18  // Populate Bank Account list
19  bankAccountList = insertBankAccount(bankAccountList, panList, "Aditi", "P123", "Bank1", "B123", 5000);
20  bankAccountList = insertBankAccount(bankAccountList, panList, "Aditi", "P124", "Bank2", "B124", 7000);
21  bankAccountList = insertBankAccount(bankAccountList, panList, "Sarthak", "P789", "Bank1", "B789", 12000);
22  bankAccountList = insertBankAccount(bankAccountList, panList, "Aleena", "P101", "Bank2", "B101", 8000);
23  bankAccountList = insertBankAccount(bankAccountList, panList, "Mayank", "P202", "Bank3", "B202", 15000);
24  bankAccountList = insertBankAccount(bankAccountList, panList, "Abhinav", "P303", "Bank4", "B303", 6000);
25  bankAccountList = insertBankAccount(bankAccountList, panList, "Abhinav", "P304", "Bank5", "B304", 9000);
26
27  // Populate LPG list
28  lpgList = insertLPG(lpgList, bankAccountList, "Aditi", "B123", "YES");
29  lpgList = insertLPG(lpgList, bankAccountList, "Sarthak", "B789", "YES");
30  lpgList = insertLPG(lpgList, bankAccountList, "Aleena", "B101", "NO");
31  lpgList = insertLPG(lpgList, bankAccountList, "Mayank", "B202", "YES");
32  lpgList = insertLPG(lpgList, bankAccountList, "Abhinav", "B303", "YES");
33  lpgList = insertLPG(lpgList, bankAccountList, "Abhinav", "B304", "NO");
```

Description of Input Data and Operations

This code snippet populates several linked lists, representing different entities (Aadhar, PAN, Bank Account, and LPG) with specific details. The lists are managed using a series of insert functions, which add new nodes to each respective list while maintaining references between them where necessary. Here is an overview of the initial conditions of the lists and the operations performed:

Aadhar List:
Contains details such as name, address, and Aadhar number.
Initially empty.

PAN List:
Contains details such as name, address, PAN number, and corresponding Aadhar number.
Initially empty.
Maintains references to the corresponding Aadhar entries.

Bank Account List:
Contains details such as name, PAN number, bank name, account number, and balance.
Initially empty.
Maintains references to the corresponding PAN entries.

LPG List:
Contains details such as name, bank account number, and subsidy status.
Initially empty.
Maintains references to the corresponding bank account entries.

• *Insertion and Searching Operations*

Populating the Aadhar List:
Each call to insertAadhar adds a new node with the specified name, address, and Aadhar number.
Example: aadharList = insertAadhar(aadharList, "Aditi", "123 Main St", "A123");
The function updates the aadharList to include new entries for "Aditi," "Arnav," "Sarthak," "Aleena," "Mayank," and "Abhinav."

Populating the PAN List:
Each call to insertPAN adds a new node with the specified details, including a reference to the corresponding Aadhar entry.
Example: panList = insertPAN(panList, aadharList, "Aditi", "123 Main St", "P123", "A123");
The function updates the panList to include new entries for individuals such as "Aditi" (with multiple PAN entries), "Sarthak," "Aleena," "Mayank," and "Abhinav."

Populating the Bank Account List:
Each call to insertBankAccount adds a new node with the specified details, including a reference to the corresponding PAN entry.
Example: bankAccountList = insertBankAccount(bankAccountList, panList, "Aditi", "P123", "Bank1", "B123", 5000);

The function updates the bankAccountList to include new entries for individuals such as "Aditi" (with multiple bank accounts), "Sarthak," "Aleena," "Mayank," and "Abhinav."

Populating the LPG List:

Each call to insertLPG adds a new node with the specified details, including a reference to the corresponding bank account entry.
Example: lpgList = insertLPG(lpgList, bankAccountList, "Aditi", "B123", "YES");
The function updates the lpgList to include new entries for individuals such as "Aditi," "Sarthak," "Aleena," "Mayank," and "Abhinav."

These operations build a comprehensive set of linked lists, with cross-references ensuring consistency and enabling easy navigation between related entries across different lists.

Visual representation of the above data example:

LPG List Name Account Number Subsidy	Aditi B123 YES	Sarthak B789 YES	Aleena B101 NO	Mayank B202 YES	Abhinav B303 YES	Abhinav B304 NO
BankAccount List Name PAN Number Bank Account Number Amount	Aditi P123 Bank1 B123 5000	Aditi P124 Bank2 B124 7000	Sarthak P789 Bank1 B789 12000	Aleena P101 Bank2 B101 8000	Mayank P202 Bank3 B202 15000	Abhinav P303 Bank4 B303 6000	Abhinav P304 Bank5 B304 9000
PAN List Name Address PAN Number Aadhar Number	Aditi 123 Main St P123 A123	Aditi 123 Main St P124 A123	Sarthak 789 Oak St P789 A789	Aleena 101 Pine St P101 A101	Mayank 202 Maple St P202 A202	Abhinav 303 Cedar St P303 A303	Abhinav 303 Cedar St P304 A303
Aadhar List Name Address Aadhar Number	Aditi 123 Main St A123	Arnav 456 Elm St A456	Sarthak 789 Oak St A789	Aleena 101 Pine St A101	Mayank 202 Maple St A202	Abhinav 303 Cedar St A303