

**HiLCoE**  
School of Computer Science and Technology  
Computer Programming I (CS222)

---

**Assignment I (C++ Function basic)**

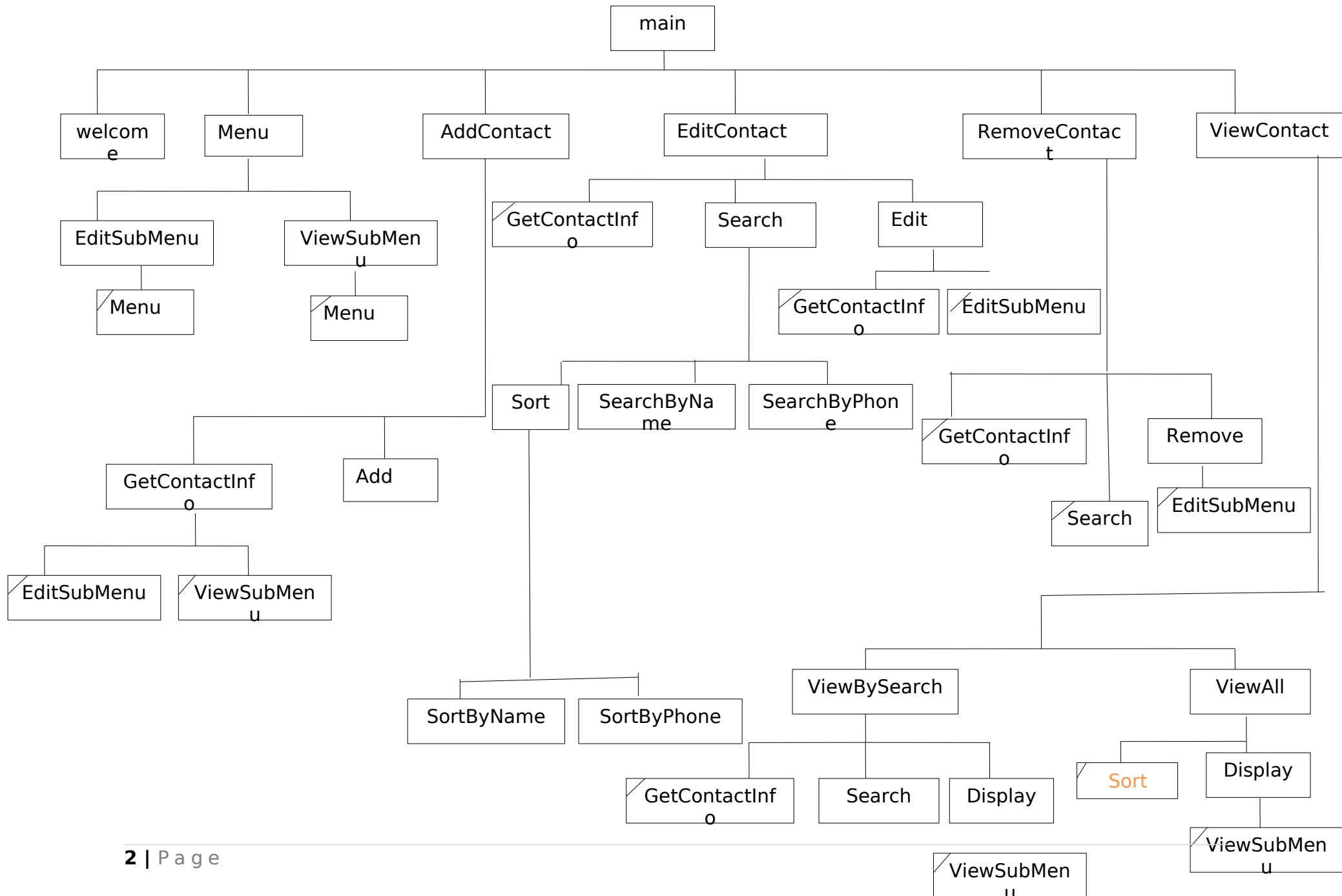
1. You are requested to develop a contact book application. The program keeps the following information about a contact: Full name, telephone number and email. It allows adding, editing, removing, searching and displaying contact info. The program may also display all contacts details sorted by name. Assume array structure to hold the data.  
Break down the problem at least in to modules (functions) and draw the structure chart  
The problem is break down as shown below:

# HiLCoE

## School of Computer Science and Technology

### Computer Programming I (CS222)

---



# HiLCoE

## School of Computer Science and Technology

### Computer Programming I (CS222)

---

#### Data Structure

Two dimensional character array to stores contact names:

Two Dimensional character array to store phone:

Two Dimensional character array to store email::

```
name[1000][80]
phone[1000][10]
email[1000][80]
```

#### Interfaces

int main() the main function

void Welcome() welcome function

int Menu() the main menu which contains Edit, view , exit menu items

int EditSubMenu() edit sub menu which contains add, edit, remove, back to main menu, exit menu item

int ViewSubMenu() view sub menu which contains view by search and view all items

void AddContact(char name[][80], char phone[][10], char email[][80], int &n)

void GetContactInfo(char prompt[], char input[]) accepts name, email or phone

void Add(char name[][80], char phone[][10], char email[][80], int & n , const char newName[], const char newPhone, const char newEmail[])

void Sort(char name[][80], char phone[][10], char email[][80], int n, int byWhat) byWhat=0 means by "name" 1 means by 'phone'

void SorByName(char name[][80], char phone[][10], char email[][80], int n)

void SorByPhone(char name[][80], char phone[][10], char email[][80], int n)

void EditContact(char name[][80], char phone[][10], char email[][80], int n)

void Search(const char name[][80], int n, int byWhat, int searchResultIdx[], int & noResults)  
searchResultIdx-index of found contacts

void SearchByName(const char name[][80], int n, int searchResultIdx[], int & noResults)

void SearchByPhone(const char phone[][10], int n, int searchResultIdx[], int & noResults)

void Edit(char name[][80], char phone[][10], char email[][80],int contactToEditIdx)

void RemoveContact(char name[][80], char phone[][10], char email[][80], int & n)

int void Renove(char name[][80], char phone[][10], char email[][80], int & n, int contactToRemoveIdx)

void ViewBySearch(const char name[][80], const char phone[][10], const char email[][80], int n)

```
void Display(const char name[][80], const char phone[][10], const char email[][80], int n, const int  
resultToDisplay[], int noResult)
```

```
void Display(const char name[][80], const char phone[][10], const char email[][80], int n)
```

**Question**

Implement the complete program.