Start
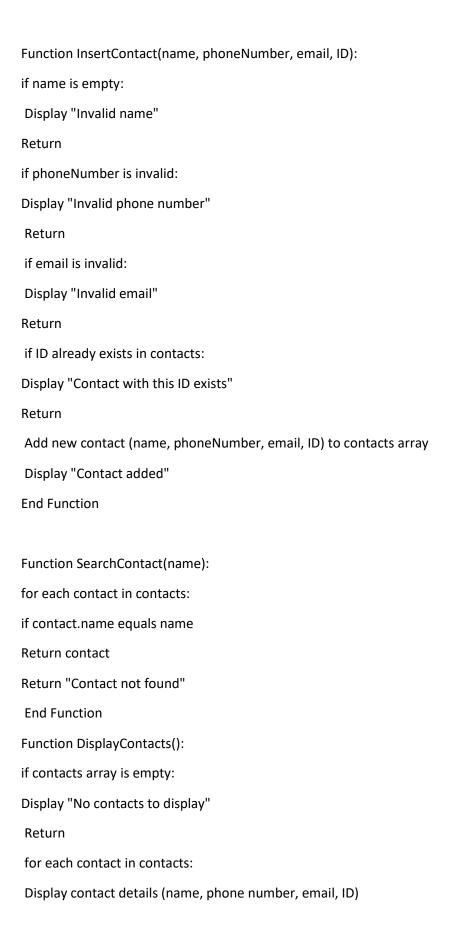
DisplayMenu()

WHILE user does not select Exit

 choice ← GetUserChoice()

 IF choice = 1 THEN

 InsertContact(contactList)

ELSE IF choice = 2 THEN

 SearchContact(contactList, name)

 ELSE IF choice = 3 THEN

 DisplayContacts(contactList)

 ELSE IF choice = 4 THEN

 DeleteContact(contactList, name)

 ELSE IF choice = 5 THEN

UpdateContact(contactList, name)

 ELSE IF choice = 6 THEN

 SortContacts(contactList)

ENDIF

DisplayMenu()

ENDWHILE

 ExitApplication()

 END

```
Function InsertContact(name, phoneNumber, email, ID):

if name is empty:

 Display "Invalid name"

Return

if phoneNumber is invalid:

Display "Invalid phone number"

 Return

 if email is invalid:

 Display "Invalid email"

Return

 if ID already exists in contacts:

Display "Contact with this ID exists"

Return

 Add new contact (name, phoneNumber, email, ID) to contacts array

 Display "Contact added"

End Function


Function SearchContact(name):

for each contact in contacts:

if contact.name equals name

Return contact

Return "Contact not found"

 End Function

Function DisplayContacts():

if contacts array is empty:

Display "No contacts to display"

 Return

 for each contact in contacts:

 Display contact details (name, phone number, email, ID)
```

End Function

Function DeleteContact(name):

index = SearchContact(name)

if index == -1:

Display "Contact not found"

Return

Remove contact from contacts array at index

Display "Contact deleted"

End Function

Function UpdateContact(oldName, newName, newPhoneNumber, newEmail, newID):

index = SearchContact(oldName)

if index == -1:

Display "Contact not found"

Return

if newPhoneNumber is invalid or newEmail is invalid:

Display "Invalid details"

Return

Update contact's details in contacts array at index

Display "Contact updated"

End Function

Function SortContacts():

Sort contacts array by name or ID in ascending order

Display "Contacts sorted"

End Function

```
Function AnalyzeSearchEfficiency():

Display "Search algorithm time complexity is O(n)"

 End Function
```