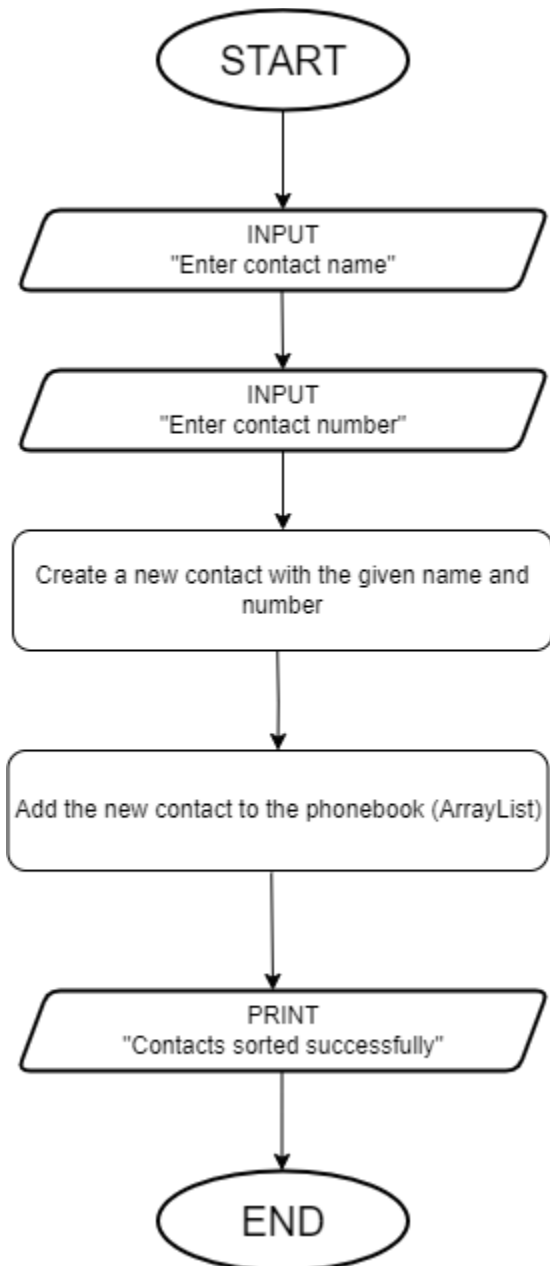# DSA PHONEBOOK DOCUMENTATION

PSEUDOCODE AND FLOWCHARTS

JASON N KASHIMBODE - 224012320
JOHANNES N AMUNYELA - 224014129
JOHANNES N NUUYUNI – 224085441
WILHEM N HATUTALE - 223123722
JUNO IIMENE – 224089633

FUNCTION InsertContact(phonebook, name, number)

   CREATE new_contact AS Contact(name, number)

   ADD new_contact TO phonebook

   PRINT "Contact added successfully"

END FUNCTION

```
           START
             |
             v
     INPUT
     "Enter contact name"
             |
             v
     INPUT
     "Enter contact number"
             |
             v
   Create a new contact with the given name and
                    number
             |
             v
   Add the new contact to the phonebook (ArrayList)
             |
             v
          PRINT
   "Contacts sorted successfully"
             |
             v
            END
```

FUNCTION SearchContact(phonebook, name)

   FOR each contact IN phonebook

     IF contact.name EQUALS name

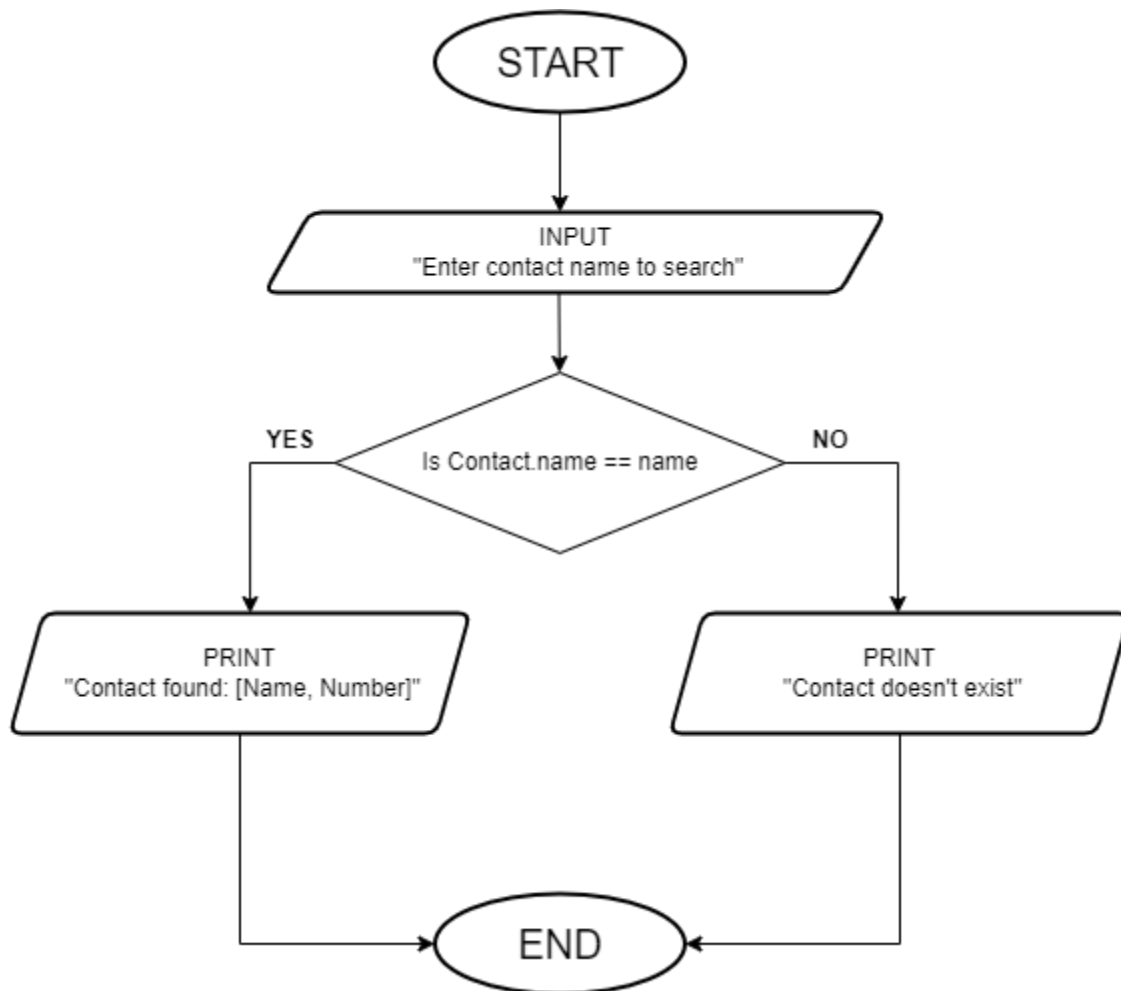   PRINT "Contact found: ", contact.name, contact.number

       RETURN

     END IF

   END FOR

   PRINT "Contact not found"

END FUNCTION

```
                          ┌─────────┐
                          │  START  │
                          └─────────┘
                               │
                               ▼
                    ┌──────────────────────┐
                    │        INPUT         │
                    │ "Enter contact name  │
                    │     to search"       │
                    └──────────────────────┘
                               │
                               ▼
         YES                  ◇                    NO
      ┌──────────  Is Contact.name == name  ──────────┐
      │                       ◇                        │
      ▼                                                ▼
┌──────────────────┐                      ┌──────────────────┐
│      PRINT       │                      │      PRINT        │
│ "Contact found:  │                      │ "Contact doesn't  │
│ [Name, Number]"  │                      │     exist"        │
└──────────────────┘                      └──────────────────┘
      │                                                │
      │                  ┌─────────┐                   │
      └─────────────────▶│   END   │◀──────────────────┘
                         └─────────┘
```

```
FUNCTION DisplayAllContacts(phonebook)

    IF phonebook is empty

        PRINT "Phonebook is empty"

        RETURN

    END IF


    FOR each contact IN phonebook

        PRINT contact.name, contact.number

    END FOR

END FUNCTION
```
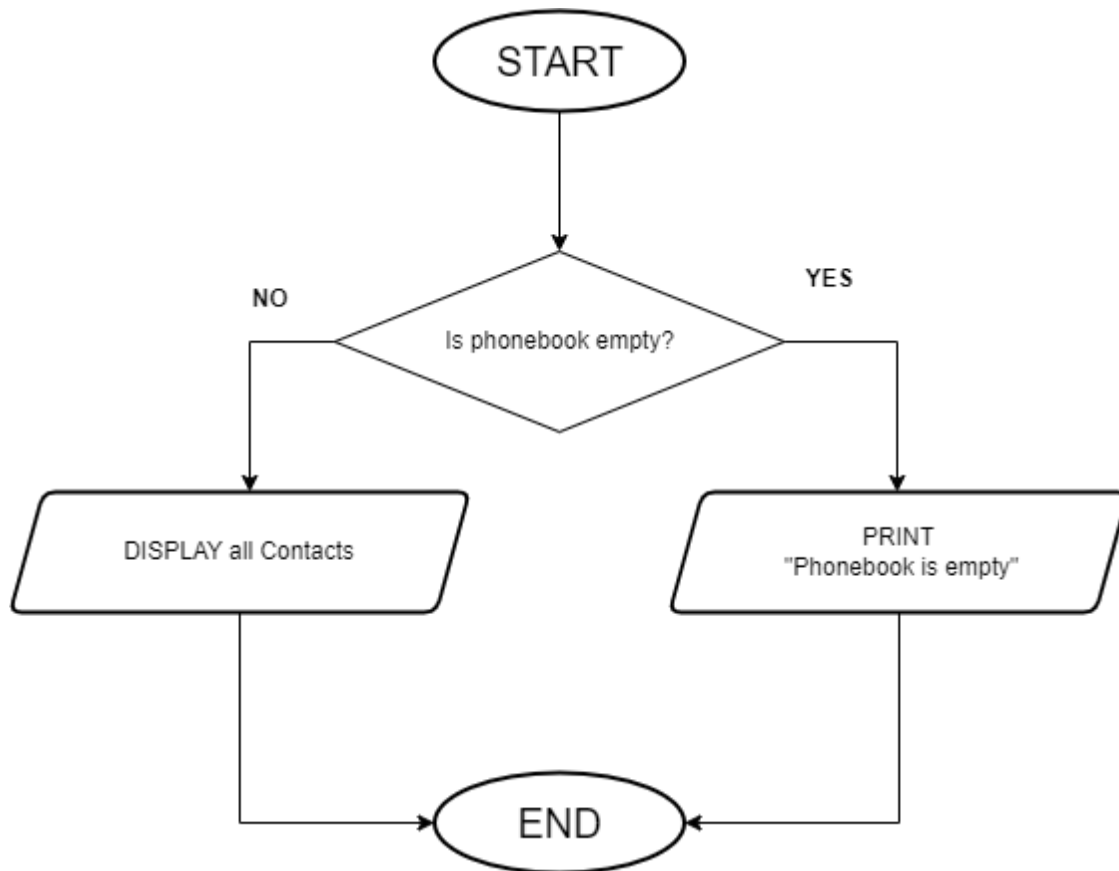
```
FUNCTION DeleteContact(phonebook, name)

    FOR each contact IN phonebook

        IF contact.name EQUALS name

            REMOVE contact FROM phonebook

            PRINT "Contact deleted successfully"

            RETURN

        END IF

    END FOR

    PRINT "Contact not found"

END FUNCTION
```
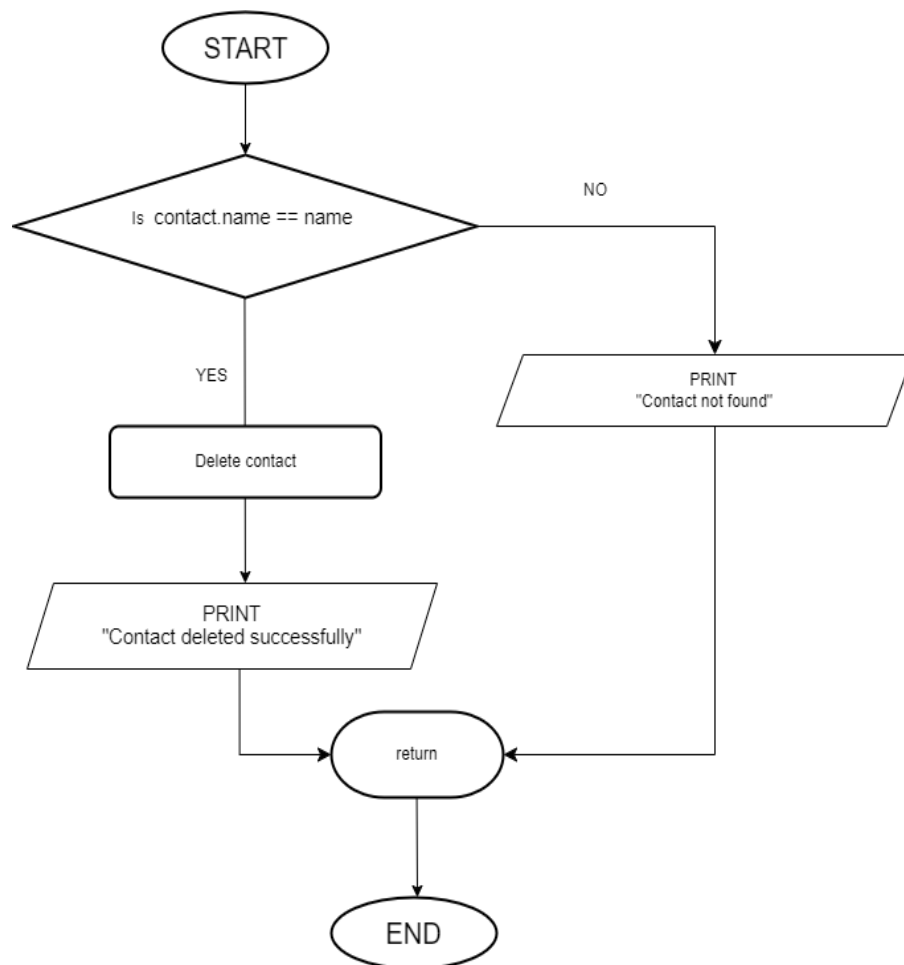
FUNCTION UpdateContact(phonebook, name, new_number)

  FOR each contact IN phonebook

    IF contact.name EQUALS name

      contact.number = new_number
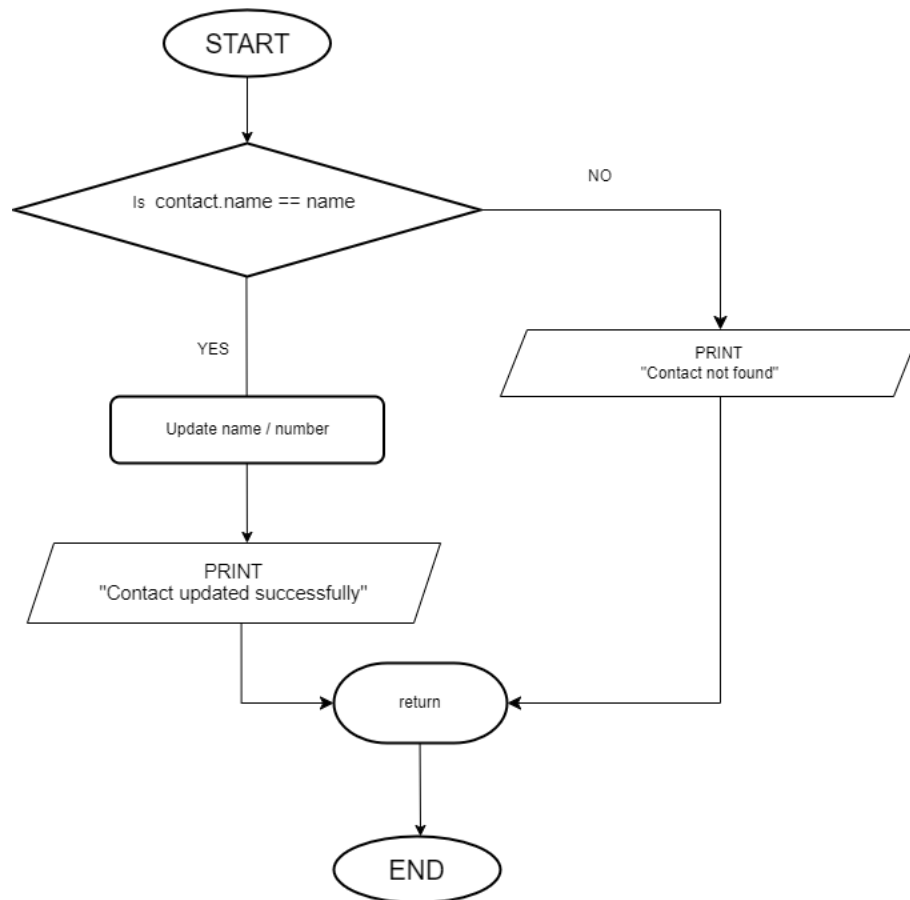
      PRINT "Contact updated successfully"

      RETURN

    END IF

  END FOR

  PRINT "Contact not found"

END FUNCTION

```
                    START
                      |
                      v
         Is contact.name == name  ---- NO ---->  PRINT
                      |                           "Contact not found"
                     YES                               |
                      |                                |
              Update name / number                     |
                      |                                |
                      v                                |
                   PRINT                               |
          "Contact updated successfully"               |
                      |                                |
                      +-------->  return  <------------+
                                    |
                                    v
                                   END
```

FUNCTION SortContacts(phonebook)

   SORT phonebook BY contact.name IN ascending order

   PRINT "Contacts sorted successfully"

END FUNCTION

```
        ┌─────────────┐
        │    START    │
        └─────────────┘
               │
               ▼
   ┌───────────────────────────────┐
   │ Sort the contacts in          │
   │ Ascending order               │
   └───────────────────────────────┘
               │
               ▼
   ┌───────────────────────────────┐
   │           PRINT               │
   │ "Contacts sorted successfully"│
   └───────────────────────────────┘
               │
               ▼
        ┌─────────────┐
        │     END     │
        └─────────────┘
```