**Contact Person Application Documentation**

**Introduction**

The **Contact Person Application** is a Java-based program designed to organize and manage a personal or professional contact list efficiently. It uses a **Binary Search Tree (BST)** structure to store and retrieve contact information. This structure ensures that all contacts are maintained in alphabetical order, making it easier to search, view, and manage the list.

This application is interactive, user-friendly, and provides core functionality such as adding, searching, deleting, and displaying contacts.

### ****What the Contact Person Application Can Do****

The **Contact Prson Application** is a tool for organizing and managing a contact list efficiently. It uses a **Binary Search Tree (BST)** to ensure contacts are stored in alphabetical order and provides the following functionalities:

1. **Add Contacts**: Add new contacts with a name and phone number while maintaining sorted order.
2. **Search Contacts**: Quickly find a contact by name using the tree's search capabilities.
3. **Display All Contacts**: View the entire contact list in alphabetical order.
4. **Delete Contacts**: Remove contacts by name, handling edge cases like nodes with one or two children.
5. **Exit**: Safely terminate the application when done.

This application is user-friendly, efficient, and suitable for personal or educational use.

### ****Why Did I Create This Application?****

I created the **Contact Person Application** to apply my knowledge of **Binary Search Trees (BSTs)** in a real-world scenario. It helped me improve my skills in Java, object-oriented programming, and algorithms while solving the common problem of contact organization.

### ****How Does It Contribute?****

1. **To Me**:
   * Enhanced my programming and problem-solving skills.
   * Provided a valuable project for my portfolio.
2. **To the Community**:
   * Serves as an educational tool for learning BSTs.
   * Offers a simple, offline contact management solution for users who prefer not to rely on cloud services.

This application bridges theoretical knowledge with practical use, benefiting both personal growth and the community.