

## BHCSI Introduction to Python Program: Telephone Directory

In this program you maintain a telephone directory. In your program you'll allow the user to add new entries to the telephone directory, either one by one or several at a time, delete entries by name, and look up entries by either name or number.

Your program will be a menu driven program. In the beginning of the program you'll start with an empty telephone directory. You'll prompt the user with the following choices:

- 1) Add entries to the telephone directory from a file.
- 2) Add an individual entry/Change an existing entry
- 3) Look up a phone number by name.
- 4) Look up a person with their phone number.
- 5) Delete an entry, by name only.
- 6) Quit

For #1, ask the user to enter the name of the input file with the new names and numbers to add. If any of the names are previously existing names, then overwrite the old number with the new number for that person. The file format will be explained below.

For #2, ask the user to enter a name and telephone number and read these in. If the name is new, add this entry to the telephone directory. If the name is already in the directory, simply change the number.

For #3, ask the user for a name and return that person's phone number. If the person is not in the directory, print out an message indicating that the number was not found.

For #4, ask the user for a phone number and return the person with that number, if one exists in the directory. If no one with that number is in the directory, then print out a message indicating so.

For #5, ask the user to enter a name, check to see if it's in the directory, and delete the corresponding entry from the telephone. If no such entry exists, print out a message indicating so.

For this assignment in order for two names to be considered the same, they must be the exact same, including capitalization. Thus, "Dave" and "dave" will be considered as different people. You are guaranteed that all input names will consist of letters only and all phone numbers will be valid 10 digit integers that don't start with 0. **To resolve ambiguities please consult the sample program run.**

### **Input File Format**

The first line of the file will contain a single positive integer,  $n$ , representing the number of names to add to the telephone directory.  $2n$  lines follow, with the first line of every pair of lines containing the name of the entry and the second line of every pair of lines containing the phone number as an integer.

## **Menu Driven Format**

Print out the following menu for the user:

Please make a selection from the following choices:

- 1) Add entries to the telephone directory from a file.
- 2) Add an individual entry/Change an existing entry
- 3) Look up a phone number by name.
- 4) Look up a person with their phone number.
- 5) Delete an entry, by name only.
- 6) Quit

If the user selects option #1, prompt them with the following question:

What is the name of the file with the entries to add?

If the user selects option #2, prompt them with the following two question:

What is the name of the person to add/edit to the directory?  
What is his/her phone number?

If the user selects option #3, prompt them with the following question:

Whose phone number do you want to look up?

If the user selects option #4, prompt them with the following question:

Enter the phone number you want to look up.

If the user selectes option #5, prompt them with the following question:

Whose entry would you like to delete?

## **Sample Input File (numbers.txt)**

```
5
Adam
4076781234
Bella
3216451234
Cindy
2029784176
David
3217775555
Ella
4072176512
```

### **Sample Program Run (User Input in Bold)**

Please make a selection from the following choices:

- 1) Add entries to the telephone directory from a file.
- 2) Add an individual entry/Change an existing entry
- 3) Look up a phone number by name.
- 4) Look up a person with their phone number.
- 5) Delete an entry, by name only.
- 6) Quit

**1**

What is the name of the file with the entries to add?

**numbers.txt**

Please make a selection from the following choices:

- 1) Add entries to the telephone directory from a file.
- 2) Add an individual entry/Change an existing entry
- 3) Look up a phone number by name.
- 4) Look up a person with their phone number.
- 5) Delete an entry, by name only.
- 6) Quit

**2**

What is the name of the person to add/edit to the directory?

**Frank**

What is his/her phone number?

**3219295380**

Please make a selection from the following choices:

- 1) Add entries to the telephone directory from a file.
- 2) Add an individual entry/Change an existing entry
- 3) Look up a phone number by name.
- 4) Look up a person with their phone number.
- 5) Delete an entry, by name only.
- 6) Quit

**3**

Whose phone number do you want to look up?

**Cindy**

Cindy's phone number is 2029784176.

Please make a selection from the following choices:

- 1) Add entries to the telephone directory from a file.
- 2) Add an individual entry/Change an existing entry

- 3) Look up a phone number by name.
- 4) Look up a person with their phone number.
- 5) Delete an entry, by name only.
- 6) Quit

**2**

What is the name of the person to add/edit to the directory?

**Bella**

What is his/her phone number?

**2027775423**

Please make a selection from the following choices:

- 1) Add entries to the telephone directory from a file.
- 2) Add an individual entry/Change an existing entry
- 3) Look up a phone number by name.
- 4) Look up a person with their phone number.
- 5) Delete an entry, by name only.
- 6) Quit

**4**

Enter the phone number you want to look up.

**2027775423**

The number 2027775423 belongs to Bella.

Please make a selection from the following choices:

- 1) Add entries to the telephone directory from a file.
- 2) Add an individual entry/Change an existing entry
- 3) Look up a phone number by name.
- 4) Look up a person with their phone number.
- 5) Delete an entry, by name only.
- 6) Quit

**5**

Whose entry would you like to delete?

**Ella**

Please make a selection from the following choices:

- 1) Add entries to the telephone directory from a file.
- 2) Add an individual entry/Change an existing entry
- 3) Look up a phone number by name.
- 4) Look up a person with their phone number.
- 5) Delete an entry, by name only.
- 6) Quit

**3**

Whose phone number do you want to look up?

**Ella**

Sorry, Ella's number isn't listed in the directory.

Please make a selection from the following choices:

- 1) Add entries to the telephone directory from a file.
- 2) Add an individual entry/Change an existing entry
- 3) Look up a phone number by name.
- 4) Look up a person with their phone number.
- 5) Delete an entry, by name only.
- 6) Quit

**4**

Enter the phone number you want to look up.

**1234567890**

Sorry, no one in the directory has the number 1234567890.

Please make a selection from the following choices:

- 1) Add entries to the telephone directory from a file.
- 2) Add an individual entry/Change an existing entry
- 3) Look up a phone number by name.
- 4) Look up a person with their phone number.
- 5) Delete an entry, by name only.
- 6) Quit

**5**

Whose entry would you like to delete?

**Talia**

Sorry, no entry for Talia exists. No action was taken.

Please make a selection from the following choices:

- 1) Add entries to the telephone directory from a file.
- 2) Add an individual entry/Change an existing entry
- 3) Look up a phone number by name.
- 4) Look up a person with their phone number.
- 5) Delete an entry, by name only.
- 6) Quit

**6**

Thanks for using the phone directory app. Goodbye!