

COMP B10 – INTRO TO PROGRAMMING METHODOLOGIES USING PYTHON
ASSIGNMENT #5 (ZIPCODE LOOKUP)
(FILES, EXCEPTIONS, AND LISTS)

Create the Python code for a program that will allow users to find the city and state for a given zip code.

The operational logic for the program is as follows:

- The program will read from a file (zipcodes.txt) a record containing these fields: zip code, city, and state. As it reads each record, the program will separate the fields and store the values in one or more lists.
- Each record will be contained in a single line with each field being separated by a comma (.). Use the split method to extract each field from each record in the file.
- The program **must** open the file, read AND store the entire file into one or more lists, and close the file **BEFORE** continuing.
- If the zipcodes.txt can't be located by your program you should print the following error message and terminate the program normally – **"Error - zipcodes.txt does not exist"**. Hint: when you try and open the file in read mode and it does not exist, your program will generate the **"IOError"** exception.
- The program will then prompt the user for a zip code (**"Enter a zip code to find (Press Enter key alone to stop)"**).
- The program will accept the user's input and then attempt to locate the user supplied zip code in the list containing the zip codes.
- If the program finds the zip code it will print the city and state information corresponding to that zip code.
- If the program does not find the zip code it will print this error message: **"The zip code does not exist."**
- In either case the program will go back and prompt the user to enter in a zip code.
- This process will continue until the user presses the Enter key without supplying a zip code when prompted.
- The program will then terminate normally.
- **You MUST use LISTS for this program. You can only process the zipcodes.txt file ONCE at the beginning of the program.**

Additional notes:

- You must use the program template for your program and document ALL variables used locally and globally.
 - **You must effectively modularize your program into LOGICAL functions. Examples: `main()`, `loadLists()`, `searchLoop()`, `promptUser()`, `findZipcode()`, `printSearchResults()`, etc. These are ONLY suggestions.**
 - Your messages and prompts should look EXACTLY like those in the sample. Duplicating all blank lines and spacing.
 - Pay attention to spelling and all other things visual -- you will be graded on this.
 - Staple multi-page outputs.
 - Use appropriate white-space and line-continuations in your source code.
 - Upload ONLY your Python program to Canvas in the designated area.
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SAMPLE RUN:

ZIPCODE LOOKUP PROGRAM

Error - zipcodes.txt does not exist

Run complete. Press the Enter key to exit.

ZIPCODE LOOKUP PROGRAM

Enter a zip code to find (Press Enter key alone to stop): 93308

The city is BAKERSFIELD and the state is CA.

Enter a zip code to find (Press Enter key alone to stop): 90210

The city is BEVERLY HILLS and the state is CA.

Enter a zip code to find (Press Enter key alone to stop): 666

The zip code does not exist.

Enter a zip code to find (Press Enter key alone to stop):

Run complete. Press the Enter key to exit.