**CSCE 3600: Systems Programming**

**Minor Assignment 5 – Python**Due date: December 2, 2024, 11:59 PM

**Score for this submission will replace one of the lowest Minor scores**

**PROGRAM DESCRIPTION:**

In this assignment, you will write a Python program to process an input file.

Download the file minor5.tsv. Each row of this file contains a data record separated by a single tab. The fields are: state, street address, city, zip code.

Your need to write a python program that allows users to search for entries using the city

or zip code.

1. Write a python function called load\_records that given a filename as input, opens the file and reads in the data. Each data record should be represented as a tuple of strings. The function should return two objects: A dictionary mapping zip codes to lists of such tuples and a dictionary mapping cities to sets of zip codes.
2. Write a python program that first reads in the data file once (using the function from part (a)), and then asks the user repeatedly to enter a zip code or a city name (in a while loop until the user types “quit”). For each request, the program prints all data records for this city or zip code. If city names are ambiguous (duplicated city names), all entries should be printed. If no records can be found, you need to print according information such as :

No records found in this town. or

No records found in this zip code.

1. The format for printed out information should be:

Street address

Town, state, zipcode

**SAMPLE OUTPUT:**

sp1568@cell02:~/3600/python$ python3 minor5.py

Enter input:10037

W. 57th St. & Ninth Ave at Balsley Park

NY, New York, 10037 Enter input:88352

corner of bookout and central avenue tularosa, New Mexico, 88352

Enter input:Wynne

705 E. Union Ave

Wynne, Arkansas, 72396

Enter input:Fort Collins

802 W. Drake Rd

Fort Collins, Colorado, 80526

Enter input:denton

No records found in this town.

Enter input:76207

No records found in this zip code.

Enter input:NY

W. 57th St. & Ninth Ave at Balsley Park

NY, New York, 10037

112th Madison Avenue

NY, New York, 10029

Enter input:quit sp1568@cell02:~/3600/python$

**REQUIREMENTS:**

* Your code should be well documented in terms of comments. For example, good comments in general consist of a header (with your name, course section, date, and brief description), comments for each variable, and commented blocks of code.
* Your programs should be named “**minor5.py**”
* Your program will be graded based largely on whether it works correctly on the CELL machines (e.g., cell01, cell02, …), so you should make sure that your program compiles and runs on a CELL machine.
* Please pay attention to the **SAMPLE OUTPUT** for how this program is expected to work. If you have any questions about this, please contact your instructor, TAs, or IA assigned to this course to ensure you understand these directions.