**Questions**

You are required to write a program that can read a file and perform several functions. The file needed can be downloaded from link:

<https://1drv.ms/u/s!AhuAx03LAKWtnOM9O1wlXSAR84Z67g?e=lVmH5x> .

File description:

This file is a csv file; therefore, each column is separated with comma. This file consists of 3939 rows of Housing Data in Malaysia with no missing value for each row. This file also has a **header. Therefore, when your program loads the data, your program should be able to skip this header before passing the data into your record variable**. A glimpse of the data:

Text

Description automatically generated

You are required to perform 3 functions as follows:

1. **(40 Points) Describe**.

This function explains the information from each column. When running this function, **give a prompt to get input from the user** as the name of the column you want to describe. Then, display:

* 1. For column loc1, loc2, room, bathrooms, carparks, type, or furnish, display:
     1. Frequency for each unique value
     2. Maximum frequency
     3. Minimum frequency

For example, if we call describe function followed with loc1 as column name, the program should display like this:

Text

Description automatically generated

* 1. For area and price column, display only:
     1. Minimum value
     2. Maximum value
     3. Average value

**Because area and price value are not discrete, therefore there isn’t a need to perform frequency check for each of it.   
Draw the Flowchart of your solution.**

1. **(40 Points) Search Data.**

To be able to handle search function, ask user to give input with format:

DataX in ColumnName

Your program should be able to parse above input. **It is prohibited to use 3 string input**. Then, display all data that has that DataX.

For example:

Partly in furnish

Above command will result in:

A picture containing text, computer

Description automatically generated

However, your program also should be able to search using only sub-string, for example:

pong in loc1

will result in:

Calendar

Description automatically generated with low confidence

* **Give information if data searched doesn’t exist in the record.**
* **YOU ONLY HAVE TO DO SEARCH IN THE COLUMN OTHER THAN AREA AND PRICE.**

**Draw the Flowchart of your solution.**

1. **(20 Point)** Please refer to **textbook Paul J. Deitel (2016). C how to program: with an introduction to C++, Chapter 8, Exercise 8.21 (page 404). *Alphabetizing a List of String.***In the original question, you are asked to alphabetize list of string using 10 to 15 name of towns. **For this case, implement what is being asked using column Location 1.**

**Draw the Flowchart of your solution.**

**Note:**

1. All solutions should be built using C code.
2. As mentioned in each question, you also need to give draw Flowcharts from your solution for each case number. If your solution contains more than 1 sub program, each sub program should also be drawn. For example:

Diagram

Description automatically generated

Each Function A and Function B must have its own flowchart diagram.