

You will extend the home assignment one. Here is the description.

(a)(i) Create an **City** structure that will have the following members: name (string type), population (int type), and averageTemperature (float type).

(ii) In the main function, create an array of size N of **City** structure type. This array will be used by all the functions. You will pass this array and # of cities as arguments to the functions.

(b) Create a **function** “takeCitiesInfoFromKeyboard” that takes a **City** structure array and the size of the array as parameters. It takes information of all the Cities from keyboard and stores in the **City** structure array. Do you know that arrays are passed by reference?

(c) Create a function “searchACity” that takes an **City** structure array, population, and the size of the array as parameters. It finds and displays the city’s information from the array searching by the population.

(d) Create a function “displayAllCitiesInfoReverse” that takes a **City** structure array and the size of the array as parameters. It displays all Cities’ information in **reverse index order** in a tabular format with following values (including the given column heading):

City Name – City Population – City Temperature

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(e) Write other necessary code to create the following menu system similar to assignment one. The following menu will **always** be displayed except if exited by pressing 'q'.

```
===== BD Meteorological System =====
```

- Enter 'r', to take information of all the cities into the **City** structure array of size **N**.
- Enter 's', to search a City by population. If found, display the info of City. If not, display "Not Found".
- Enter 't', to display the information of all the Cities in reverse index order in a tabular format.
- Enter 'q', quit/exit the menu system.
- For any other input, display "Invalid Input"

After the menu is displayed, the program will prompt the user “Enter your choice: “ to enter a choice from the menu. After user enters his choice, using **switch case** the program will **call appropriate functions** to do the task.