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PROGRAMMING EXERCISES

1. Assume the definition of Exercise 4, which defines the struct `fruitType`. Write a program that declares a variable of type `fruitType`, prompts the user to input data about a fruit, and outputs the fruit data.
2. Write a program that reads students' names followed by their test scores. The program should output each student's name followed by the test score and the relevant grade. It should also find and print the highest test score and the name of the students having the highest test score.
Student data should be stored in a struct variable of type `studentType`, which has four components: `studentFName` and `studentLName` of type `string`, `testScore` of type `int` (`testScore` is between 0 and 100), and `grade` of type `char`. Suppose that the class has 20 students. Use an array of components of type `studentType`.

Your program must contain at least the following functions:

- a. A function to read the students' data into the array.
- b. A function to assign the relevant grade to each student.
- c. A function to find the highest test score.
- d. A function to print the names of the students having the highest test score.

Your program must output each student's name in this form: last name followed by a comma, followed by a space, followed by the first name. The name must be left justified. Moreover, other than declaring the variables for opening the input and output files, the function `main` should only be a collection of function calls.

3. Define a struct, `menuItem`, with two components: `menuItemName` of type `string` and `menuItemPrice` of type `double`.
4. Write a program to help a local restaurant automate its breakfast billing system. The program should do the following:
 - a. Show the customer the different breakfast items offered by the restaurant.
 - b. Allow the customer to select more than one item from the menu.
 - c. Calculate and print the bill.

Assume that the restaurant offers the following breakfast items (the price of each item is shown to the right of the item):

Plain Egg	\$1.45
Bacon and Egg	\$2.45
Muffin	\$0.99
French Toast	\$1.99
Fruit Basket	\$2.49
Cereal	\$0.69
Coffee	\$0.50
Tea	\$0.75

Use an array, `menuList`, of type `menuItem`.
Programming Exercise 3.
following functions:

- Function `getData`: Takes an array of type `menuItem` and a pointer to a `menuList`.
- Function `showMenu`: Prints the menu items offered by the restaurant.
- Function `printCheck`: Prints the bill for a customer. (Note that the billing amount is a `double`.)
A sample output is:

```
Welcome to Johnny's
Bacon and Egg    $2.45
Muffin           $0.99
Coffee           $0.50
Tax              $0.50
Amount Due      $4.44
```

Format your output with two decimal places. The output must be left justified. Your program should print one item of a particular type.

5. Redo Exercise 4 so that the customer can select more than one item. A sample output in this case is:

```
Welcome to Johnny's
1 Bacon and Egg    $2.45
2 Muffin           $0.99
1 Coffee           $0.50
Tax                $0.50
Amount Due        $4.44
```

6. Write a program whose main function consists of file declarations and function calls. The program should use the letters, together with their counts, to print the result. (There can be no spaces in the result.)
Your program must consist of at least the following functions:

- Function `openFile`: Opens the input and output file streams as parameters (by default, the input file must exist, the program should prompt the user for the output file name).
- Function `count`: Counts the number of occurrences of each letter in the input file.



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