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## PROGRAMMING EXERCISES

- Assume the definition of Exercise 4, which defines the `struct fruit`. Write a program that declares a variable of type `fruitType`, prompts user to input data about a fruit, and outputs the fruit data.
- 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 `student`, 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 20 `student` components of type `studentType`.

Your program must contain at least the following functions:

- A function to read the students' data into the array.
- A function to assign the relevant grade to each student.
- A function to find the highest test score.
- 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 and opening the input and output files, the function `main` should only contain a collection of function calls.

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

- Function `getData`: This function should read the contents of `menuList`.
- Function `showMenu`: This function should display the menu offered by the restaurant.
- Function `printCheck`: This function should print the bill.

(Note that the billing amount is not included in the `menuItem` structure.)

A sample output is:

```
Welcome to Johnny's
Bacon and Egg      $2.45
Muffin             $0.99
Coffee             $0.50
Tax                $0.00
Amount Due        $4.94
```

Format your output with two decimal places. The output must be left justified. You must use `setw` to align each item of a particular type.

- Redo Exercise 4 so that the customer can select more than one item of a particular type. A sample output in this case is:

```
Welcome to Johnny's
1 Bacon and Egg      $2.45
2 Muffin             $1.98
1 Coffee             $0.50
Tax                $0.00
Amount Due        $4.93
```

- Write a program whose `main` function contains no declarations and function calls. The program should read two letters, together with their counts, from the standard input and pass them to the `printResult` function. (There can be no more than 26 letters.) Your program must consist of at least 10 lines of code.

- Function `openFile`: Opens the file `input.txt` for reading and the file `output.txt` for writing. Both files are passed as parameters (by value). If either file does not exist, the program should print an error message and exit. The program must ask the user for the file names.
- Function `count`: Counts every occurrence of a character in a string.



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