Assignment #1

Problem Solving and Programming in C++
Department of Computer Science
Old Dominion University

Objectives: The major advantage of using `structs` is to make the C++ code simpler, easier to read, and easier to work with. After completing this assignment, students will be able to:

- use `structs` to create and/or introduce new custom data types
- implement `structs` to group fixed numbers of pieces of data of different types
- implement `structs` within `structs`
- chaining using the dot operators to access nested fields
- copy an entire structure
- create an array of a structured data type
- combine `structs` and arrays with one another

Task Description: A Restaurant owner wants you to create a program to keep track of all of his inventory and workers. You are given 4 files: Food.txt, Employee.txt, Condiment.txt, and PlasticItem.txt. Your task is to create an array of structs for each file to hold the entries. The first line of each file will be a number indicating how many entries are in the file.

Food.txt

1. Name
2. Number Remaining
3. Expiration Date (*month:day:year*)
4. Cost

Employee.txt

1. Name
2. Id
3. Salary
4. Hire Date (*month:day:year*)
5. Rating (1-10)

Condiment.txt

1. Name
2. Ounces Remaining
3. Expiration Date (*month:day:year*)

4. Cost

PlasticItem.txt

1. Name
2. Number Remaining
3. Cost

Write a C++ program to help the restaurant owner. Create four arrays of structs named *Food*, *Employee*, *Condiment*, and *PlasticItem.* The size of the array should be read in from the file. Structs should be created to hold the variables that won't fit a standard data type.

The `main()` function of your program should be very simple. The main function should be a collection of variable declarations and function calls. You will need to use four different functions to read the data from the four files. You can add more functions if you want. You are to give the user the ability to print out each section's records (*Food, Employee, Condiment,* and *PlasticItem).* Do NOT use global variables. If you do so there will be a deduction of 10 points from your total points.

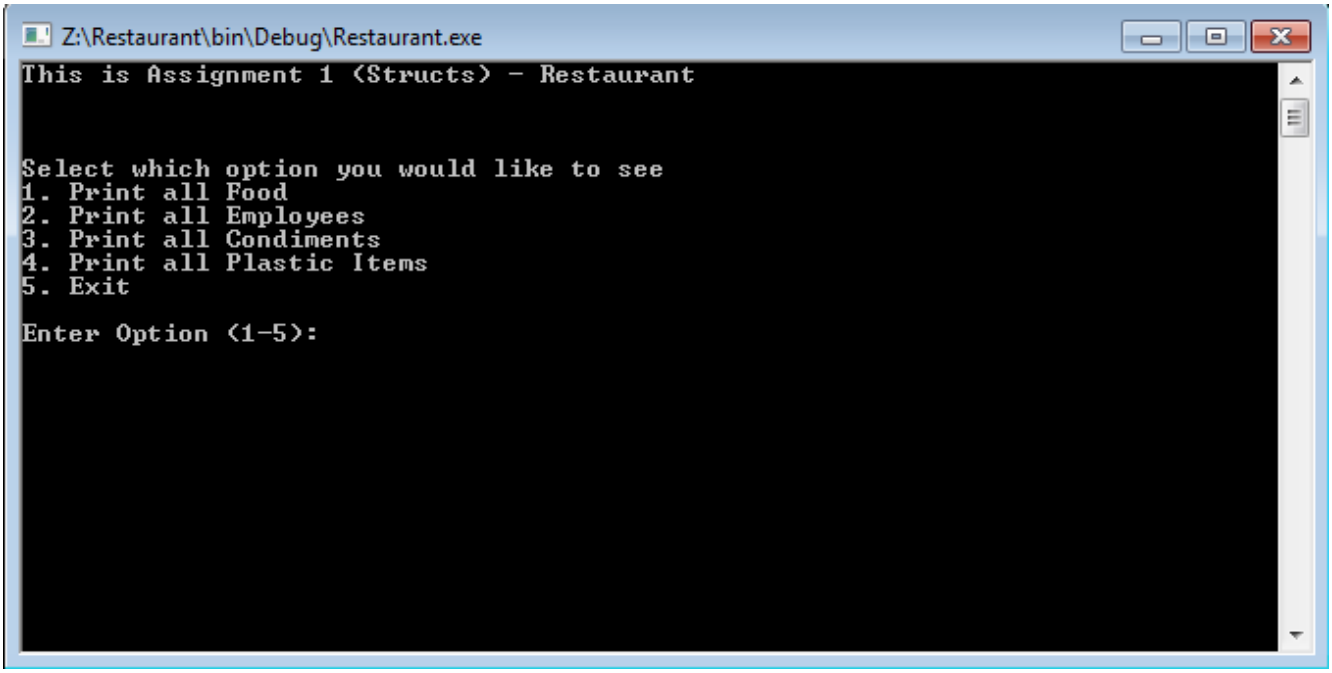
Please check the attached "Grading Rubric" for the grading criteria.

Submission notes for Task:

- Zip the entire Code::Blocks project containing all the .cpp, .h, .cbp files and name the zipped file "Assg1_cslogin.zip", where the cslogin is your login ID for the computers at the Department of Computer Science at ODU

- Submit the zipped file using the appropriate Blackboard link.

Sample output of Task:


Z:\Restaurant\bin\Debug\Restaurant.exe
This is Assignment 1 (Structs) - Restaurant
Select which option you would like to see
1. Print all Food
2. Print all Employees
3. Print all Condiments
4. Print all Plastic Items
5. Exit
Enter Option (1-5):


Z:\Restaurant\bin\Debug\Restaurant.exe
Food
Name ¦ Number left ¦ Sell By Date ¦ Cost
Tomato ¦ 20 ¦ 07:02:2015 ¦ 1.95
Cucumber ¦ 89 ¦ 06:15:2014 ¦ 0.89
Bread ¦ 4 ¦ 06:25:2017 ¦ 2.69
Eggs ¦ 11 ¦ 08:29:2015 ¦ 2.33
Turkey ¦ 56 ¦ 05:01:2010 ¦ 1.72
Orange ¦ 16 ¦ 04:19:2011 ¦ 0.12
Lettuce ¦ 40 ¦ 09:05:2002 ¦ 0.3
HotDog ¦ 22 ¦ 05:20:2010 ¦ 0.99
Chicken ¦ 9 ¦ 03:11:2016 ¦ 1.01
Bun ¦ 1 ¦ 06:24:2013 ¦ 1.89
Burger ¦ 0 ¦ 03:29:2016 ¦ 66.6
Rib ¦ 16 ¦ 06:15:2013 ¦ 1.23
Apple ¦ 18 ¦ 08:21:2012 ¦ 1.87
Banana ¦ 44 ¦ 10:22:2013 ¦ 1.95
Carrot ¦ 21 ¦ 09:22:2013 ¦ 1.99