

## COP 3275C Assignment 4 -

**Assignment purpose:** To compile, build, and execute an interactive application written in the C++ programming language with simple data types, mathematical equations, flow of control constructs (example: if/ else/while), programmer defined functions using both pass by value and pass by reference parameters, programmer defined structs and file input.

Write a program that will manage 3 instances of the same object (see the sample output) read the data from an input file and print it onto the screen. **We will use this assignment as a starting point for future assignments.**

Create your own struct with at least 5 member variables.

DO NOT USE struct vegetable.

EXAMPLE:

```
struct vegetable {
    string name, color;
    int id;
    double costPerPound;
    double pricePerPound;
};
```

One member variable should be a unique ID.

For the strings, you do not need to worry about white space:

If you decide to use book for example, you can add underscores or use camelCase:  
*Harry\_Potter\_and\_the\_Goblet\_of\_Fire* or *TheLordOfTheRings*

You will need to create a file with the data. **The data must be the correct type and in order for 3 instances of your struct. See the sample veggieInput file provided.**

Declare 3 objects of your type:

Your program should include:

- A function to fill the member variables from a file
  - This void function should take a reference parameter to your object and a reference parameter to the input file stream
- A function to print the information for one object
  - This void function should take a const reference parameter to your object

SAMPLE OUTPUT for vegetable EXAMPLE (DO NOT USE vegetable for your assignment):

```
-----Printing Veggie info-----

ID : 111
Veggie name: carrot
Veggie color: orange
Cost per pound: $0.45
Selling price per pound: $4.00
```

-----Printing Veggie info-----

ID : 222  
Veggie name: green\_beans  
Veggie color: green  
Cost per pound: \$1.79  
Selling price per pound: \$4.29

-----Printing Veggie info-----

ID : 333  
Veggie name: brusselSprouts  
Veggie color: green  
Cost per pound: \$1.12  
Selling price per pound: \$2.87

...Program finished with exit code 0  
Press ENTER to exit console.

#### **Additional instructions:**

- Submit the source code and your input file
- Be sure to comment your code (see the template file)
- Include a program header COMMENT with the following information:
  - Name, date, course, and a brief description of the assignment
- Test your code in an IDE before submitting
- The file names must match the assignment
- The code must be submitted on time in order to receive credit (11:59 PM on the due date)
  - NOTE: there is a grace period until 8:00 AM the following day
- The assignment allows multiple submissions you may make revisions and resubmit until the final due date
- **Late submissions (after 8 AM or sent by email) will not be accepted or graded**

Modifying data and submitting it as your own is a fraudulent practice—specifically, plagiarism—and is no different than copying paragraphs of information from a book or journal article and calling it your own (make sure that you work independently and submit only your own work)

**This programming assignment is individual work, sharing code is considered cheating,**

**The use of AI to assist in this assignment is prohibited.**