

CSC-101 – HW8

Q1 (30 Points) Define a `struct computerType` to store the following data about a computer: Manufacturer (`string`), model type (`string`), processor type (`string`), ram (`int`) in GB, hard drive size (`int`) in GB, year when the computer was built (`int`), and the price (`double`).

```
#include <iostream>

using namespace std;

struct computerType
{
    string manufacturer;
    string modelType;
    string processorType;
    int ram;
    int hardDriveSize;
    int yearBuilt;
    double price;
};

int main() {
    // Write your main here
    return 0;
}
```

Write a program that declares a variable of type `computerType`, prompts the user to input data about a computer, and outputs the computer's data.

Example input and output is shown below:

Enter the name of the manufacturer: McPC

Enter the model of the computer: 1000

Enter processor type: Intel GFX

Enter the size of RAM (in GB): 8

Enter the size of hard drive (in GB): 1000

Enter the year the computer was built: 2016

Enter the price: 1200

Manufacturer: McPC

Model: 1000

Processor: Intel GFX

Ram: 8

Hard Drive Size: 1000

Year Built: 2016

Price: \$1200.00

Q2 (40 points) Write a program to help a local restaurant automate its breakfast billing system. The program should do the following:

1. Show the customer the different breakfast items offered by the restaurant.
2. Allow the customer to select more than one item from the menu.
3. 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):

food	Price
Plain Egg	\$1.45
Bacon and Egg	\$2.45
Muffin	\$0.99
French Toast	\$1.99
Fruit Basket	\$2.49

food	Price
Cereal	\$0.69
Coffee	\$0.50
Tea	\$0.75

Use an array `menuList` of type `menuItem`, as defined above. Your program must contain at least the following functions:

- Function `getData`: This function loads the data from a file into the array `menuList`.
- Function `showMenu`: This function shows the different items offered by the restaurant and tells the user how to select the items.
- Function `printCheck`: This function calculates and prints the check. (Note that the billing amount should include a 5% tax.)

A sample output is:

Welcome to Zee's Restaurant

----Today's Menu----

1: Plain Egg \$1.45
 2: Bacon and Egg \$2.45
 3: Muffin \$0.99
 4: French Toast \$1.99
 5: Fruit Basket \$2.49
 6: Cereal \$0.69
 7: Coffee \$0.50
 8: Tea \$0.75

You can make up to 8 single order selections

Do you want to make selection Y/y (Yes), N/n (No): Y

Enter item number: 1

Select another item Y/y (Yes), N/n (No): Y

Enter item number: 2

Select another item Y/y (Yes), N/n (No): N

Welcome to Zee's Restaurant

Plain Egg \$1.45

Bacon and Egg \$2.45

Tax \$0.20

Amount Due \$4.10

Format your output with two decimal places. The name of each item in the output must be left justified. You may assume that the user selects only one item of a particular type.

Q3 (40 Points) Write a program that declares a `struct` to store the data of a football player (player's name, player's position, number of touchdowns, number of catches, number of passing yards, number of receiving yards, and the number of rushing yards).

Declare an array of 10 components to store the data of 10 football players.

```
Bill Quarter_Back 70 0 8754 0 573
Jackson Receiver 55 87 50 5490 574
Grahm Running_Back 45 30 0 50 2800
McCoy Full_Back 25 10 0 25 3762
Daryl Quarter_Back 50 2 7560 0 450
Santiago Left_Tackle 5 0 0 0 0
Hanks Receiver 35 37 0 3590 876
Johnson Running_Back 25 80 0 100 4000
Miller Receiver 110 250 150 7867 2100
Ruth Quarter_Back 85 0 12901 0 3249
```

Name: Bill Position: Quarter_Back; Touch Downs: 70; Number of Catches: 0; Passing Yards: 8754; Receiving Yards: 0; Rushing Yards: 573

Your program must contain a function to input data and a function to output data. Add functions to search the array to find the index of a specific player, and up-date the data of a player. (You may assume that the input data is stored in a file.) Before the program terminates, give the user the option to save data in a file. Your program should be menu driven, giving the user various choices.

An example of the program is shown below:

Select one of the following options:

- 1: To print a player's data
- 2: To print the entire data
- 3: To update a player's touch downs
- 4: To update a player's number of catches
- 5: To update a player's passing yards
- 6: To update a player's receiving yards
- 7: To update a player's rushing yards
- 99: To quit the program

1

Enter player's name: Bill

Name: Bill Position: Quarter_Back; Touch Downs: 70; Number of Catches: 0; Passing Yards: 8754; Receiving Yards: 0; Rushing Yards: 573

Select one of the following options:

- 1: To print a player's data
- 2: To print the entire data
- 3: To update a player's touch downs
- 4: To update a player's number of catches
- 5: To update a player's passing yards
- 6: To update a player's receiving yards
- 7: To update a player's rushing yards
- 99: To quit the program

99

Would you like to save data: (y,Y/n,N) N
