Write a C program emulating a vending machine that will be placed at the university campus. The machine sells healthy food. The functional requirements of the program are as follows:

1) The program input will be through the console.

2) The program output will be written to an output file at the program directory (same folder).

3) In the console, the system must print the menu, which contains the list of healthy food that the vending machine sells.

4) The bill of the item/items that the user selected must appear in the output file, after the user finishes his/her order and quits the program.

5) The bill will contain the item chosen, quantity, total price, money paid (cash), and the remaining money (change).

6) The input screen (at the console) should be similar to the example shown in figure (1).


```
1. Apple                $1.00
2. Banana               $1.50
3. Orange               $2.0
4. Salad                $3.0
5. Quit

Please enter your selection: 4
You have selected Salad.              $3.0

How many of the item you need
5
----------------------
MENU:

1. Apple                $1.00
2. Banana               $1.50
3. Orange               $2.0
4. Salad                $3.0
5. Quit

Please enter your selection: 5
Please enter the Money
50

 Thank you for your payment please check the reset file which has your payment details

Process returned 0 (0x0)   execution time : 9.591 s
Press any key to continue.
```

Figure (1): The input screen format example.

7) You should use functions in your implementation, as follows:

a) Write a function to list the items of the menu at the input screen.

b) Write a function that shows what item you have selected.

c) Write a function that returns the cost of the item selected.

d) Write a function that calculates the total cost of the selected item, by multiplying the item cost by its quantity.

e) Write a function that asks the user to enter the money and check if the money is enough to buy the selected item/items. Then calculate the change by subtracting the money paid (cash) from the total cost of all items chosen (remaining money).

f) Sample Functions prototypes:

int menu (); //This function displays the menu of the available items and allows you to select an item to purchase.

void FoodSelected(int selection); //This function display the items selected

double ItemCost(int selection); //This function returns the price of the selected item

double totalprice(double price,int quantity);

//This function calculates the total price of the selected item (price * quantity)

double EnteredMoney(double money, double sum);//This function returns the change.

8) Sample Output file:

The output should be like to the sample shown in figure 2.

```
Output.txt - Notepad
File  Edit  Format  View  Help
The bill info of the selected item is :
_____

Item      Price        Quantity       Total   Paid money     Remaining money
_____

Apple     1.00 $          9            9.00 $

Salad     3.00 $          4            12.00 $

_____


                                              50.00 $         29.00 $
```

Figure (2): Sample output file.

1) The code should compile without errors and produce the correct output. The code should be clean, well commented, and using the best coding standards.

2) In case the user entered not sufficient money you are optionally able to allow him to add the money again or to re-run the program again and enter sufficient amount of money.