Intro to Programming in C –program 6 (larger program)

Assignment purpose: To compile, build, and execute an interactive program using functions from stdio.h (printf and scanf), simple math in C, conditions, loops, and programmer defined functions, with pass by copy input parameters and with input/output parameters, file input and output.

```
#define _CRT_SECURE_NO_WARNINGS //for Visual studio compiler
#include<stdio.h> //for printf and scanf
```

Instructions:
This program uses many of the features of program 4

For this assignment you will be implementing a program that simulates a food purchasing app

Please use an app with 7 Food MENU OPTIONS

1. Initialize the balance in the app from the file "`foodAccountBalance.txt`"
   - For VS – add the input file to the project folder
   - For online Compiler – upload the file
   - For Xcode – you will need to add the file path
2. The program will welcome the user with a friendly message and instructions.
3. Display the Program menu options:

```
'A' or 'a' to add an item to your order.
'N' or 'n' to start over with a NEW order.
'C' or 'c' to Check out.
'Q' or 'q' QUIT and cancel.
```

4. Display the balance
5. Display the item options (this is an example – you can create your own food options and prices):

```
(1) The Box Combo – 11.39
(2) The Caniac Combo – 16.35
(3) The 3 Finger Combo – 9.79
(4) The Sandwich Combo – 9.99
(5) The kids Combo – 6.49
(6) Drink only – 2.99
(7) Sandwich only – 7.99
```

6. **The user will make the selection based on the item number**
7. Set the price based on the item number and allow the user to select the quantity of that item
8. The user may continue to ADD (A) any items until checkout (C)
9. Each item total will be added to an order total
10. The user may select (N) to start over and reset
11. The user will select Q to quit and the remaining balance will be saved into the file for the next time the program executes

Use the following programmer defined functions. DO NOT modify the Functions:

```
//function prototypes

void Greeting(void);
//welcome the user to the food purchasing app
```

```c
void MenuSelection(char* selectionPtr);
//input the selection variable by reference ("address of")
//displays the menu otions and gets the character from the user

void OneItemOrder(double *totalPtr);
//input: total by reference ("address of")
//allows the user to order a quantity of one item and updates the total

int DisplayFoodSelections(); //SAME AS PROGRAM 4
//display the food choices, the price, and related item number
//declare, ask, get the item number
//return the price of the item

double SetPrice(int itemNumber); //SAME AS PROGRAM 4
//input: item number
//use the item number to identify the price
//return the price


double AddQuantityToOrder(double price); //SAME AS PROGRAM 4
//input: price of the item
//declare ask and get the quantity
//calculate and return the item total
//return the total

double Checkout(double balance, double totalPrice); //SAME AS PROGRAM 4
//input: amount of money in the account and the order total
//return: the amount left in the account after making the purchase
//Uses the Reload and checkFor Enough functions
//to get money from the user until the user has enough to make the purchase
//make the purchase and return the remaining balance


//THIS FUNCTION WILL BE CALLED FROM THE Checkout function
int CheckForEnough(double balance, double totalPrice); //SAME AS PROGRAM 4
//input: amount of money in the account and the order total
//returns a 1 if there is enough in the account to make a purchase
//returns 0 if there is not enough



//THIS FUNCTION WILL BE CALLED FROM THE Checkout function
double Reload(double balance); //SAME AS PROGRAM 4
//input: account balance
//return the new balance with the added funds
//reload the account balance
```

Additional information:

- You can assume the user will enter an integer for the number selection
- You can assume the user will reload with a reasonable amount
- Please look at the template code provided with the assignment
- The user can only purchase one item at a time (more features will be added in future programs)
- One algorithm will be submitted (***lastname_program6alg.pdf***)
- One source code file (unformatted text) will be submitted
- The file name must match the assignment (***lastname_program6.c***)
- The code should be tested and run on an IDE before it is uploaded onto Canvas
- The code must be submitted on time in order to receive credit, do not wait until the last minute
- **Late submissions, or email submissions will not be accepted for grading**
- **All programming assignments are individual work, sharing code is considered cheating**

Here are some tips and tricks that will help you with this assignment and make the experience more enjoyable.

- Do not try to write out all the code at once.
- For each new line of code written (2-3 lines), build it to see if it compiles successfully.
- After any successful build, run the executable to see what happens so you know what to do next!
  - If the program performs as expected, you can then move onto the next step
  - If you try to write everything at once and build it successfully to find out it does not work properly, you will get frustrated trying to find out the logical error in your code!
    - **Logical errors are the hardest to fix and identify in a program!**
- Start the assignment early! Do not wait last minute (the day of) to begin the assignment.

Sample Output:

```
Welcome to the food purchasing app
You will be presented with a list of items and your account balance.
Please select the number for the item you wish to purchase and the quantity.
You may add additional items to your order (A) before checking out (C).
You may start over by selecting (N) you end the program by selecting (Q).
At checkout, if you do not have enough money to cover the purchase
you will be asked to add money to your account until you have entered enough money to
make the purchase.

The current balance in your account is $20.00

Select from the following:

'A' or 'a' to add an item to your order.
'N' or 'n' to start over with a NEW order.
'C' or 'c' to Check out.
'Q' or 'q' QUIT and cancel.c

Checkout

The current ORDER total is $0.00

BEFORE THE ORDER: The current balance in your account is $20.00

You have not ordered any items, select 'A'

AFTER THE ORDER: The current balance in your account is $20.00

Select from the following:

'A' or 'a' to add an item to your order.
'N' or 'n' to start over with a NEW order.
'C' or 'c' to Check out.
'Q' or 'q' QUIT and cancel.a

-----------------------------------------
Here are the food options:
1. The Box Combo                $11.39
```

```
2. The Caniac Combo                $16.35
3. The 3 Finger Combo               $9.79
4. The Sandwich Combo               $9.99
5. The kids Combo                   $6.49
6. Drink only                       $2.99
7. Sandwich only                    $7.99
```

Enter your selection (1-7):3

The item number you selected was 3

You selected 3 Finger Combo, the price is $9.79

The price of your item selection is $9.79, how many do you want to order? 6

The current ITEM total is $58.74

The current ORDER total is $58.74

Select from the following:

'A' or 'a' to add an item to your order.
'N' or 'n' to start over with a NEW order.
'C' or 'c' to Check out.
'Q' or 'q' QUIT and cancel.n

Reset the balance to the original balance: $20.00

Reset order total to $0.00

Select from the following:

'A' or 'a' to add an item to your order.
'N' or 'n' to start over with a NEW order.
'C' or 'c' to Check out.
'Q' or 'q' QUIT and cancel.c

Checkout

The current ORDER total is $0.00

BEFORE THE ORDER: The current balance in your account is $20.00

You have not ordered any items, select 'A'

AFTER THE ORDER: The current balance in your account is $20.00

Select from the following:

'A' or 'a' to add an item to your order.
'N' or 'n' to start over with a NEW order.

'C' or 'c' to Check out.
'Q' or 'q' QUIT and cancel.a

Here are the food options:
1. The Box Combo $11.39
2. The Caniac Combo $16.35
3. The 3 Finger Combo $9.79
4. The Sandwich Combo $9.99
5. The kids Combo $6.49
6. Drink only $2.99
7. Sandwich only $7.99

Enter your selection (1-7):2

The item number you selected was 2

You selected Caniac Combo, the price is $16.35

The price of your item selection is $16.35, how many do you want to order? 2

The current ITEM total is $32.70

The current ORDER total is $32.70

Select from the following:

'A' or 'a' to add an item to your order.
'N' or 'n' to start over with a NEW order.
'C' or 'c' to Check out.
'Q' or 'q' QUIT and cancel.a

Here are the food options:
1. The Box Combo $11.39
2. The Caniac Combo $16.35
3. The 3 Finger Combo $9.79
4. The Sandwich Combo $9.99
5. The kids Combo $6.49
6. Drink only $2.99
7. Sandwich only $7.99

Enter your selection (1-7):5

The item number you selected was 5

You selected The kids Combo, the price is $6.49

The price of your item selection is $6.49, how many do you want to order? 3

The current ITEM total is $19.47

The current ORDER total is $52.17

Select from the following:

'A' or 'a' to add an item to your order.
'N' or 'n' to start over with a NEW order.
'C' or 'c' to Check out.
'Q' or 'q' QUIT and cancel.a

Here are the food options:
1. The Box Combo $11.39
2. The Caniac Combo $16.35
3. The 3 Finger Combo $9.79
4. The Sandwich Combo $9.99
5. The kids Combo $6.49
6. Drink only $2.99
7. Sandwich only $7.99

Enter your selection (1-7):6

The item number you selected was 6

You selected Drink only, the price is $2.99

The price of your item selection is $2.99, how many do you want to order? 1

The current ITEM total is $2.99

The current ORDER total is $55.16

Select from the following:

'A' or 'a' to add an item to your order.
'N' or 'n' to start over with a NEW order.
'C' or 'c' to Check out.
'Q' or 'q' QUIT and cancel.c

Checkout

The current ORDER total is $55.16

BEFORE THE ORDER: The current balance in your account is $20.00

Total is: $55.16 and balance in your account is: $20.00

You do not have enough money to cover the total

Total is: $55.16 and balance in your account is: $20.00

The current balance in your account is $20.00, how much would you like to add? 10

You do not have enough money to cover the total

Total is: $55.16 and balance in your account is: $30.00

The current balance in your account is $30.00, how much would you like to add? 30

Enjoy your purchase and have a nice day!

AFTER THE ORDER: The current balance in your account is $4.84

Select from the following:

'A' or 'a' to add an item to your order.
'N' or 'n' to start over with a NEW order.
'C' or 'c' to Check out.
'Q' or 'q' QUIT and cancel.a

Here are the food options:
1. The Box Combo $11.39
2. The Caniac Combo $16.35
3. The 3 Finger Combo $9.79
4. The Sandwich Combo $9.99
5. The kids Combo $6.49
6. Drink only $2.99
7. Sandwich only $7.99

Enter your selection (1-7):7

The item number you selected was 7

You selected Sandwich only, the price is $7.99

The price of your item selection is $7.99, how many do you want to order? 2

The current ITEM total is $15.98

The current ORDER total is $15.98

Select from the following:

'A' or 'a' to add an item to your order.
'N' or 'n' to start over with a NEW order.
'C' or 'c' to Check out.
'Q' or 'q' QUIT and cancel.c

Checkout

The current ORDER total is $15.98

BEFORE THE ORDER: The current balance in your account is $4.84

Total is: $15.98 and balance in your account is: $4.84

You do not have enough money to cover the total

Total is: $15.98 and balance in your account is: $4.84

The current balance in your account is $4.84, how much would you like to add? 50

Enjoy your purchase and have a nice day!

AFTER THE ORDER: The current balance in your account is $38.86

Select from the following:

'A' or 'a' to add an item to your order.
'N' or 'n' to start over with a NEW order.
'C' or 'c' to Check out.
'Q' or 'q' QUIT and cancel.q

Saving 38.86 balance into the file, Have a great day!