

PROGRAM 5

www.thinkgeek.com STORE INVENTORY PROGRAM



Assignment Date

Friday, April 7, 2017

Due Date

Monday, April 24, 2017 (NO LATE PROGRAMS, NO EXCEPTIONS!!) Upload for files (store.h, store.cpp, functions.cpp, & inventory.txt) to the ilearn dropbox titled PROGRAM 5!

Files

You will be turning in four files.

1. **store.h** – this file should contain all the #include files, all the function prototypes, and all the structure definitions.
2. **store.cpp** – this file should contain the main function
3. **functions.cpp** – this file should contain all the programmer-defined functions
4. **inventory.txt** – this file should contain at least 5 items that YOU come up with (do not re-use mine!)

Structures

You will have three structures defined EXACTLY how I have mine below.

- Item
 - Name (name of the item)
 - Description (description of the item)
 - Cost (nested Money structure)
 - Popularity (12 element integer array containing the popularity of the item for each month)
 - Date (nested Date structure)
 -

- Money
 - Goods Price (how much the retail store paid for the item)
 - Sale Price (how much the retail store is going to sale item for)
 - Profit (how much profit the store will make when selling this item)
- Date
 - Month (integer)
 - Day (integer)
 - Year (integer)

Functions

FUNCTION: Main

- Create an ARRAY of 100 elements of data type Item. Make 100 a global constant for the program.
- Print out welcome message. If you want to do a store that is not so weird, you can choose any type of store you want with any time of store inventory....totally up to you.

```
C:\Users\acrockett\Desktop\CSC2100 Spring 2017\PROGRAMS\PROGRAM 5>a

WELCOME TO THINK GEEK!
```
- Call the menu() function, which should return the user's choice as an integer
- Depending on the user's choice, call the appropriate function. If the user chooses to end the program (choice 4) then call the saveInventory function and print a "Goodbye!" message.
- Program should continue to run until user selects choice 4.

FUNCTION: menu()

- Display menu, get user's choice & validate, return user's choice from the function.

```
Please choose from the following options:
1. Add new ThinkGeek item(s).
2. Print most popular item.
3. Print all items.
4. End the program.

CHOOSE 1-4: 1
```

FUNCTION: add()

- During this function, always make sure not to add more then 100 items to the store's warehouse. Tell the user if you are not able to add items because the warehouse is full.
- Display the add menu, validate the user's choice

```
Do you want to....
1. Add items from a file?
2. Add one item manually?
3. Return to main menu?
CHOOSE 1-3:
```
- If the user selects 1, then do the following:
 - Allow the user to type in a filename that contains inventory items (separated by '#' signs). Make sure the file exists before trying to read from it. Read in each piece of data and place the data in the appropriate array element of the Item array. A sample file is below.

```

sampleFile - Notepad
File Edit Format View Help
Electric Jellyfish Aquarium#2 faux jellyfish illuminated with 18 LEDs. Watch them swim in
this desktop tank. A pet you can forget to feed. Set it to cycle through a series of colors
or select a specific color: red, yellow, green, blue, or violet. Note: You must add 2-3
drops of liquid dish soap for the swimming
motion.#21.5#99.99#78.49#1#2#3#4#5#6#7#8#8#9#10#4#3#2017#Jim Henson Labyrinth Board
Game#Save the baby before the clock strikes 13. 1-4 players in cooperative mode plus a 5th
can be Jareth. Play time is roughly 1 hour. Five highly collectible figurine renditions of
the main characters including Lodo! Game board lavishly illustrated with places from the
movie, including the Oubiliette, the Bog of Eternal Stench, the Goblin City, and Jareth's
Castle!#15.25#49.99#34.74#10#10#10#5#5#1#1#1#10#10#10#1#1#2016#Swim Desk#Swimming is the
new standing! Perfect for folks who want a treadmill desk but need a low-impact workout.
Modular steel construction allows for installation in existing cubicle structure. Quiet
motor speed, stainless steel ladder steps for easy entry, underwater LEDs can be switched on
for late nights at the office. Weight: 2500 lbs empty or 16400 lbs
full.#556.85#1999.99#1443.14#1#1#1#1#2#8#8#8#2#1#1#4#1#2016#

```

- After reading in all the items, print out a message to the user letting them know how many items were read from the file & added.

What is the name of the file that contains your inventory items?
c.txt

6 items from the c.txt file have been added!

Do you want to...

- If the user selects 2, then do the following:
 - Print a prompt for each piece of data you need from the user. Read the data from the user and put in the Item array. Validate all numerical input. Do not ask user for the profit – you should calculate this yourself.

Please enter the item details below:

NAME: Swim Desk

DESCRIPTION: Swimming is the new standing! Perfect for folks who want a treadmill desk but need a low-impact workout. Modular steel construction allows for installation in existing cubicle structure. Quiet motor speed, stainless steel ladder steps for easy entry, underwater LEDs can be switched on for late nights at the office. Weight: 2500 lbs empty or 16400 lbs full.

RETAIL PRICE OF GOODS (what the store paid for it): \$556.85

SALE PRICE (what the store selling it for): \$1999.99

ENTER THE POPULARITY OF THE ITEM FOR EACH MONTH.
1 = unpopular and 10 = extremely popular

MONTH 1: 1
MONTH 2: 1
MONTH 3: 1
MONTH 4: 1
MONTH 5: 1
MONTH 6: 2
MONTH 7: 8
MONTH 8: 8
MONTH 9: 8
MONTH 10: 2
MONTH 11: 1
MONTH 12: 1

ACQUIRE DATE (example: 04 02 16)
04 01 2016



- If the user selects 3, then end the loop & return the new number of items from this function.

```
Do you want to....
1. Add items from a file?
2. Add one item manually?
3. Return to main menu?
CHOOSE 1-3: 3

Please choose from the following options:
1. Add new ThinkGeek item(s).
2. Print most popular item.
3. Print all items.
```

FUNCTION: stringToFloat()

- I have written this function for you below! You will need to call this function from the add() function. This function takes a string as an argument, converts that string to a float, and then returns the float.

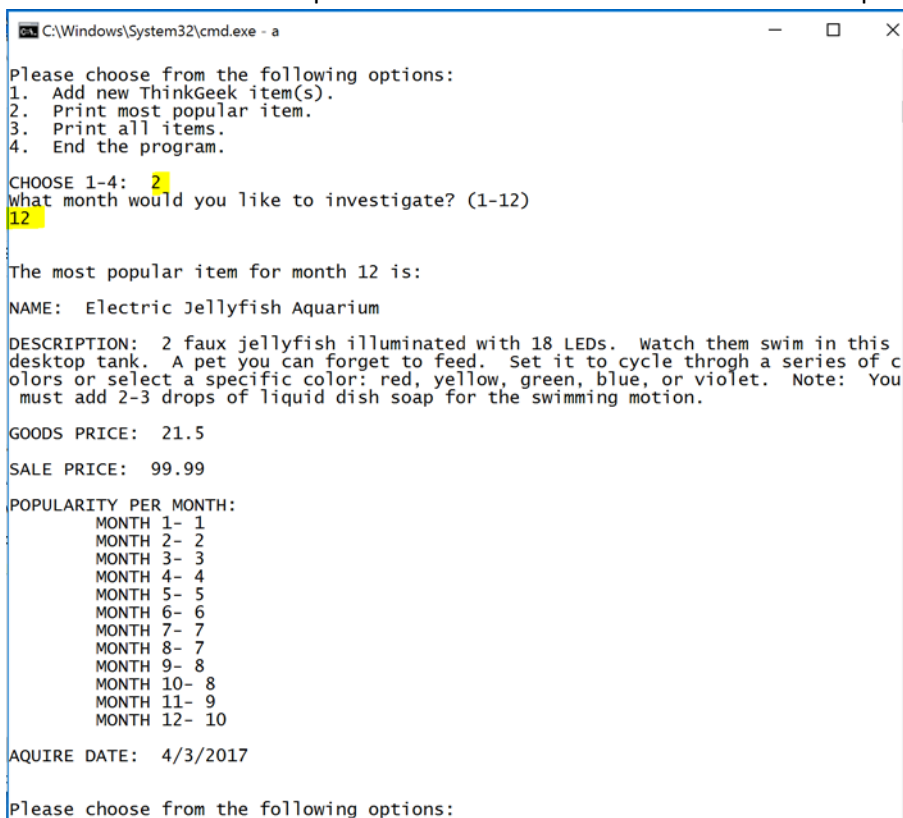
```
float stringToFloat(string str)
{
    float number;
    char convertStr[1000];
    strcpy(convertStr, str.c_str()); //convert the string to c-string

    number = atof(convertStr);

    return number;
}
```

FUNCTION: printPopluar()

- Ask the user what month they would like to choose & then find the highest popularity rating for all the items for the selected month & print out the details of that item as in the sample output below.



```
C:\Windows\System32\cmd.exe - a

Please choose from the following options:
1. Add new ThinkGeek item(s).
2. Print most popular item.
3. Print all items.
4. End the program.

CHOOSE 1-4: 2
What month would you like to investigate? (1-12)
12

The most popular item for month 12 is:
NAME: Electric Jellyfish Aquarium
DESCRIPTION: 2 faux jellyfish illuminated with 18 LEDs. Watch them swim in this desktop tank. A pet you can forget to feed. Set it to cycle through a series of colors or select a specific color: red, yellow, green, blue, or violet. Note: You must add 2-3 drops of liquid dish soap for the swimming motion.
GOODS PRICE: 21.5
SALE PRICE: 99.99
POPULARITY PER MONTH:
MONTH 1- 1
MONTH 2- 2
MONTH 3- 3
MONTH 4- 4
MONTH 5- 5
MONTH 6- 6
MONTH 7- 7
MONTH 8- 7
MONTH 9- 8
MONTH 10- 8
MONTH 11- 9
MONTH 12- 10
ACQUIRE DATE: 4/3/2017

Please choose from the following options:
```

FUNCTION: printItems()

- Print out all the items in the most organized way that you can. Use the sample output below as a reference.

```
C:\Windows\System32\cmd.exe - a
3. Print all items.
4. End the program.

CHOOSE 1-4: 3

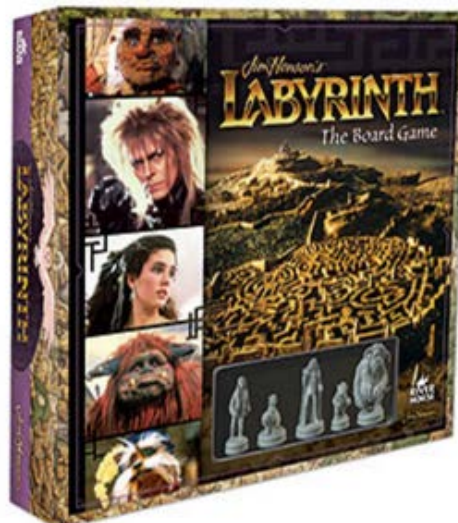
ALL ITEMS:

-----
NAME: Electric Jellyfish Aquarium                                ITEM 1
DESCRIPTION: 2 faux jellyfish illuminated with 18 LEDs. Watch them swim in this
desktop tank. A pet you can forget to feed. Set it to cycle through a series of c
olors or select a specific color: red, yellow, green, blue, or violet. Note: You
must add 2-3 drops of liquid dish soap for the swimming motion.

GOODS PRICE: 21.5
SALE PRICE: 99.99
PROFIT: 78.49
POPULARITY PER MONTH:
    MONTH 1- 1
    MONTH 2- 2
    MONTH 3- 3
    MONTH 4- 4
    MONTH 5- 5
    MONTH 6- 6
    MONTH 7- 7
    MONTH 8- 7
    MONTH 9- 8
    MONTH 10- 8
    MONTH 11- 9
    MONTH 12- 10
ACQUIRE DATE: 4/3/2017
-----
NAME: Jim Henson Labyrinth Board Game                            ITEM 2
DESCRIPTION: Save the baby before the clock strikes 13. 1-4 players in cooperati
ve mode plus a 5th can be Jareth. Play time is roughly 1 hour. Five highly colle
ctible figurine renditions of the main characters including Lodo! Game board lavi
shly illustrated with places from the movie, including the Oubliette, the Bog of
Eternal Stench, the Goblin City, and Jareth's Castle!

GOODS PRICE: 15.25
SALE PRICE: 49.99
```

There were three items in my array but my screen capture above cut off the rest of 2 & 3.



FUNCTION: saveInventory()

- If the number of items in the array is more than zero then you will want to print all the item data from the array to a file. Allow the user to name their file whatever they want. The data in your output file should be separated by a pound sign so that it looks like the example file below.

```
sampleFile - Notepad
File Edit Format View Help
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this desktop tank. A pet you can forget to feed. Set it to cycle through a series of colors
or select a specific color: red, yellow, green, blue, or violet. Note: You must add 2-3
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for late nights at the office. Weight: 2500 lbs empty or 16400 lbs
full.#556.85#1999.99#1443.14#1#1#1#1#2#8#8#2#1#1#4#1#2016#
```

Please choose from the following options:

1. Add new ThinkGeek item(s).
2. Print most popular item.
3. Print all items.
4. End the program.

CHOOSE 1-4: 4

What do you want to name your inventory file? (example.txt)

sampleFile.txt

All your items have been saved to sampleFile.txt.

Goodbye!

C:\Users\acrockett\Desktop\CSC2100 Spring 2017\PROGRAMS\PROGRAM 5>

