This programming project is due on Thursday, July 31, 2025.

Reminder: Do your own work on this project. Do not obtain any code from another student, or from the Internet. Do not show your code to anyone except the instructor, or an official BHCC Tutor. Refer also to the last page of the course *Syllabus*, for details about the BHCC policy regarding academic dishonesty.

Be sure that you read and understand this entire document before you begin writing your code. Pay close attention to the **Project Deliverables** and **Grading Criteria** sections of this document. If you have **questions**, ask the instructor during class or contact the instructor by BHCC e-mail: pmorgan@bhcc.edu.

Table of Contents

Inventory Application Program	1
Requirements for Interactive Commands	
Data File Format	3
Important Design Requirements	4
Sample Test Data	
Sample Interactive Session	
Project Deliverables:	
Grading Criteria	

Inventory Application Program

This project involves designing and creating a C++ program that will utilize the **InventoryItem** class, which is described in Section 13.10 (pages 803-807) and Section 13.12 (pages 809-812) of the Gaddis textbook. (The **InventoryItem**.h source code for this class is provided on *Moodle*.) Your program <u>must not</u> modify the class specification for the **InventoryItem** class.

The program must be organized as a "Command Loop" program. (Refer to the

Ch06_sample_code_CommandLoop... resource in the Sample Code section of Moodle.)

The program **must** implement the following interactive commands:

- a Add parts: increase the units value for an existing InventoryItem object.
- h print Help text.
- i Input inventory data from a file.
- n create a New inventory Item.
- o Output inventory data to a file.
- p Print inventory list on the screen.
- q Quit (end the program).
- Remove parts: reduce the **units** value for an *existing* **InventoryItem** object.

(Refer to the **Requirements for Interactive Commands** section of this document for more details.)

The program must create an array of 100 InventoryItem objects (or a vector of InventoryItem objects).

You are **NOT** allowed to use the **stringstream** class for any part of this assignment. If you submit a solution for this assignment that uses the **stringstream** class, the **basic_stringstream** class or *any* class associated with the **sstream** library, then your grade for the assignment will be ZERO.

Requirements for Interactive Commands

Each one of these commands **must** be implemented as a separate function: the main function must accept the command input from the user and call the appropriate function.

Command	Requirement
a	 Add Parts: Output a prompt, asking the user to specify the desired item number. If the user specifies an item number that is not in use (no item present in the data), output an error message. Output a prompt, asking the user to specify how many units to add. If the input specified by the user is negative, or if the input specified by the user would modify the quantity to a value that it is larger than the stated maximum (30 units), output an error message. If there were no errors, modify the InventoryItem object as requested.
h	Print Help Text: Output a brief summary of the user commands.
i	Input Inventory Data from File: 1. Output a prompt, asking the user to specify the name of the input file. 2. Read the data from the file into the InventoryItem array (or vector). Refer to the Data File Format section of this document. (You must use the splitLineToArray function that we discussed in class and is available on Moodle: the splitLineToArray function is part of the sample program in the Ch10_sample_code_SplitLineToArray_demo resource in the Sample Code section of Moodle.)
n	Create a New Inventory Item: 1. Input (from the keyboard) values for the description, unit cost and initial quantity (units) for a new InventoryItem. 2. Be sure to use suitable prompts, so the user knows what input is expected.
0	Output Inventory Data to File: 1. Output a prompt, asking the user to specify the name of the output file. 2. Write the data from the InventoryItem array (or vector) to the output file, following the required file format.
p	Print Inventory Data to Screen: Output the contents of the InventoryItem array (or vector) to the screen. (Refer to the Sample Output section of this document for formatting examples.)
q	Quit (exit) the Program

Command	Requirement Property of the Pr
r	Remove Parts from Existing Inventory Item:
	1. Output a prompt, asking the user to specify the desired <i>item number</i> .
	• If the user specifies an <i>item number</i> that is not in use (no item present in the data), output an error message.
	2. Output a prompt, asking the user to specify <i>how many</i> units to remove.
	3. If the input specified by the user is <i>negative</i> , or if the input specified by the user is <i>greater than</i> the units variable of the InventoryItem object, output an error
	message. 4. If there were no errors, modify the InventoryItem object as requested.

Data File Format

The "input" / "output" commands read / write data that is in a "pipe-delimited" text file.

The format of each line of text, in the data file, is described below:

File Format	
inventory item number description cost units	

	Explanation of Data Fields			
Field name	Explanation			
inventory item number	For the <i>output</i> file, this number is the same as the array (or vector) index.			
	For the <i>input</i> file, the contents of this field must be read from the data file			
but then thrown away . That is, this value is effectively ignored , because				
	the input data will be appended to the end of the "populated" portion of			
	the InventoryItem array (or vector).			
description	Description of the inventory item			
cost	Cost per unit for the inventory item			
units	Number of units present for the inventory item (must be greater than or			
	equal to zero and less than or equal to 30).			

When reading the data file, your program needs to read one line of text from the file at a time, break each line of text into separate fields (by calling the **splitLineToArray** function), and convert the text from each field to the correct data type.

- Remember that the code to process the **input file** must read the <u>first field</u> of each line, but then throw it away. There is no class variable in the **InventoryItem** class for *inventory item number*, and your program <u>must not</u> modify the **InventoryItem** class specification.
- **DO NOT** create an inventoryItemNumber member variable in the **InventoryItem** class.
- Copy the **splitLineToArray** function that we discussed in class and is available on *Moodle*. The **Sample Code** section of *Moodle* includes the **Ch10_sample_code_SplitLineToArray_demo...** resource. The **splitLineToArray** function is <u>part</u> of that sample program. (**DO NOT** blindly copy the entire program.) Use the **splitLineToArray** function <u>without modification</u>. **DO NOT** write your own function for this purpose.

Important Design Requirements

- When processing an **input** data file, be sure to remember that the <u>first</u> field of each line of data in the input file must be "skipped over" (that is, effectively ignored).
- The **output** file format must be the same as the **input** file format. That is, any file that your program creates with the "o" command must be readable by the "i" command of your program.
- The **units** member variable of any **InventoryItem** object must *never* be negative and also must *never* be greater than the value of 30.
- You are **NOT** allowed to use the **stringstream** class for any part of this assignment. If you submit a solution for this assignment that uses the **stringstream** class, the **basic_stringstream** class or *any* class associated with the **sstream** library, then your grade for the assignment will be ZERO.
- You are **NOT** allowed to modify the **splitLineToArray** function that is provided for you on *Moodle*. (Refer to the **Ch10_sample_code_SplitLineToArray_demo....** resource.) If you submit a solution for this assignment that includes *any* changes to the **splitLineToArray** function, then your grade for the assignment will be ZERO.

Sample Test Data

Four sample input files are provided: **electrical.txt**, **fasteners.txt**, **miscellaneous.txt** and **plumbing.txt**. The data files that your program creates must obey the same file format as these sample files. The program must work correctly with these files, as well as general files of similar format.

```
electrical.txt

0|Cable|5.00|18

1|Extension Cord (14/3, 25 ft)|27.95|6

2|Light switch (15 amp)|2.79|10

3|Ceiling Fan (52 inch)|79.95|3

4|Vinyl Electrical Tape (20 ft roll)|0.79|30

5|GFI Tester|9.35|5
```

```
fasteners.txt

0|Turnbuckle|3.80|25

1|Siding nails (box of 100)|4.00|20

2|Flat washer (box of 100)|2.80|30

3|Machine screw (box of 100)|3.20|10

4|Hex bolt (box of 100)|6.50|23

5|Hex nut (box of 100)|3.80|15

6|Sheet Metal Screw (qty 100)|1.50|28
```

```
miscellaneous.txt

0|Door Hinges (3-pack)|6.30|10

1|Rubber work boots (1 pair)|28.00|5

2|Leather Work Gloves (1 pair)|12.00|8

3|Long Handle Grass Shear|30.00|5
```

Due Date: July 31, 2025

```
plumbing.txt

0|Pump|39.00|20

1|Gasket|1.50|29

2|Water Level Guage|12.99|30

3|Faucet Repair Kit|4.89|8

4|Teflon Thread Seal Tape (50 ft roll)|3.30|12

5|shutoff valve|6.50|10
```

Sample Interactive Session

In the sample data on the next several pages, text that the <u>user</u> types is shown in **bold**. In actuality, what the user types would have the same text format as the rest of the output.

	S	ample Interactive Session		
_				
Command: $oldsymbol{l}$				
Supported	commands:			
	a	Add parts.		
	h	print Help text.		
	i	Input inventory data	from a file.	
	n	New inventory Item.		
	0	Output inventory data	to a file.	
	р	Print inventory list.		
	q	quit (end the program).	
	r	Remove parts.		
Command: i	L			
Enter name	e of input file: pl	umbing.txt		
	loaded to array.	3 · · · ·		
Command: K	-			
Command.				
Item Num	Description		Cost	Quantity
0	 Pump		39.00	20
1	Gasket		1.50	29
2	Water Level Guage	7	12.99	30
3	Faucet Repair Kit		4.89	8
4	-	al Tape (50 ft roll)	3.30	12
5	shutoff valve	1 1 2 10 10 10 10 11 1	6.50	10
6 records.			3.30	
Command:				
		eatrical tyt		
	e of input file: el	ectificat. txt		
o records	loaded to array.			

Command: p Item Num Description O Pump		Sample Interactive Session				
O Pump 1 Gasket 2 Water Level Guage 3 Faucet Repair Kit 4 Teflon Thread Seal Tape (50 ft roll) 5 shutoff valve 6 Cable 7 Extension Cord (14/3, 25 ft) 8 Light switch (15 amp) 9 Ceiling Fan (52 inch) 10 Vinyl Electrical Tape (20 ft roll) 11 GFI Tester 12 records. Command: a Choose a Item Number: 7 How many parts to add? 5 Command: p Item Num Description O Pump 1 Gasket 2 Water Level Guage 3 Faucet Repair Kit 4 Teflon Thread Seal Tape (50 ft roll) 5 shutoff valve 6 Cable 7 Extension Cord (14/3, 25 ft) 8 Light switch (15 amp) 9 Ceiling Fan (52 inch) 10 Vinyl Electrical Tape (20 ft roll) 11 GFI Tester 12 records. Command: r Choose a Item Number: 9						
1 Gasket 2 Water Level Guage 3 Faucet Repair Kit 4 Teflon Thread Seal Tape (50 ft roll) 5 shutoff valve 6 Cable 7 Extension Cord (14/3, 25 ft) 8 Light switch (15 amp) 9 Ceiling Fan (52 inch) 10 Vinyl Electrical Tape (20 ft roll) 11 GFI Tester 12 records. Command: a Choose a Item Number: 7 How many parts to add? 5 Command: p Item Num Description 0 Pump 1 Gasket 2 Water Level Guage 3 Faucet Repair Kit 4 Teflon Thread Seal Tape (50 ft roll) 5 shutoff valve 6 Cable 7 Extension Cord (14/3, 25 ft) 8 Light switch (15 amp) 9 Ceiling Fan (52 inch) 10 Vinyl Electrical Tape (20 ft roll) 11 GFI Tester 12 records. Command: r Choose a Item Number: 9	Cost	Quantity				
2 Water Level Guage 3 Faucet Repair Kit 4 Teflon Thread Seal Tape (50 ft roll) 5 shutoff valve 6 Cable 7 Extension Cord (14/3, 25 ft) 8 Light switch (15 amp) 9 Ceiling Fan (52 inch) 10 Vinyl Electrical Tape (20 ft roll) 11 GFI Tester 12 records. Command: a Choose a Item Number: 7 How many parts to add? 5 Command: p Item Num Description O Pump 1 Gasket 2 Water Level Guage 3 Faucet Repair Kit 4 Teflon Thread Seal Tape (50 ft roll) 5 shutoff valve 6 Cable 7 Extension Cord (14/3, 25 ft) 8 Light switch (15 amp) 9 Ceiling Fan (52 inch) 10 Vinyl Electrical Tape (20 ft roll) 11 GFI Tester Choose a Item Number: 9 Choose a Item Number: 9	39.00	20				
Faucet Repair Kit Teflon Thread Seal Tape (50 ft roll) Shutoff valve Cable Textension Cord (14/3, 25 ft) Light switch (15 amp) Ceiling Fan (52 inch) Vinyl Electrical Tape (20 ft roll) GFI Tester Tercords. Command: a Choose a Item Number: 7 How many parts to add? 5 Command: p Item Num Description Pump Gasket Water Level Guage Faucet Repair Kit Teflon Thread Seal Tape (50 ft roll) Shutoff valve Cable Textension Cord (14/3, 25 ft) Light switch (15 amp) Ceiling Fan (52 inch) Vinyl Electrical Tape (20 ft roll) GFI Tester Choose a Item Number: 9 Choose a Item Number: 9	1.50	29				
Teflon Thread Seal Tape (50 ft roll) shutoff valve Cable Extension Cord (14/3, 25 ft) Light switch (15 amp) Ceiling Fan (52 inch) Vinyl Electrical Tape (20 ft roll) GFI Tester Precords. Command: a Choose a Item Number: 7 How many parts to add? 5 Command: p Item Num Description Pump Gasket Water Level Guage Faucet Repair Kit Teflon Thread Seal Tape (50 ft roll) shutoff valve Cable Extension Cord (14/3, 25 ft) Light switch (15 amp) Ceiling Fan (52 inch) Vinyl Electrical Tape (20 ft roll) GFI Tester Choose a Item Number: 9	12.99	30				
5 shutoff valve 6 Cable 7 Extension Cord (14/3, 25 ft) 8 Light switch (15 amp) 9 Ceiling Fan (52 inch) 10 Vinyl Electrical Tape (20 ft roll) 11 GFI Tester 12 records. Command: a Choose a Item Number: 7 How many parts to add? 5 Command: p Item Num Description 0 Pump 1 Gasket 2 Water Level Guage 3 Faucet Repair Kit 4 Teflon Thread Seal Tape (50 ft roll) 5 shutoff valve 6 Cable 7 Extension Cord (14/3, 25 ft) 8 Light switch (15 amp) 9 Ceiling Fan (52 inch) 10 Vinyl Electrical Tape (20 ft roll) 11 GFI Tester 12 records. Command: r Choose a Item Number: 9	4.89	8				
6 Cable 7 Extension Cord (14/3, 25 ft) 8 Light switch (15 amp) 9 Ceiling Fan (52 inch) 10 Vinyl Electrical Tape (20 ft roll) 11 GFI Tester 12 records. 13 Command: a 14 Choose a Item Number: 7 15 Command: p 16 Gasket 17 Gasket 18 Teflon Thread Seal Tape (50 ft roll) 19 Shutoff valve 10 Cable 11 Extension Cord (14/3, 25 ft) 11 Light switch (15 amp) 12 Geiling Fan (52 inch) 13 GFI Tester 12 records. 13 Command: p 14 Choose a Item Number: 9	3.30	12				
The Extension Cord (14/3, 25 ft) 8	6.50	10				
S Light switch (15 amp) Ceiling Fan (52 inch) Vinyl Electrical Tape (20 ft roll) EFI Tester Process a Item Number: 7 Now many parts to add? 5 Command: p Choose a Item Number: 6 Command: p Choose a Item Number: 7 Now many parts to add? 5 Command: p Choose a Item Number: 7 Now many parts to add? 5 Command: p Choose a Item Number: 7 Now many parts to add? 5 Command: p Choose a Item Number: 7 Now many parts to add? 5 Command: p Choose a Item Number: 9 Light switch (15 amp) Ceiling Fan (52 inch) Now many parts to add? 5 Choose a Item Number: 9 Choose a Item Number: 9	5.00	18				
9 Ceiling Fan (52 inch) 10 Vinyl Electrical Tape (20 ft roll) 11 GFI Tester 22 records. Command: a Choose a Item Number: 7 Now many parts to add? 5 Command: p Item Num Description O Pump 1 Gasket 2 Water Level Guage 3 Faucet Repair Kit 4 Teflon Thread Seal Tape (50 ft roll) 5 shutoff valve 6 Cable 7 Extension Cord (14/3, 25 ft) 8 Light switch (15 amp) 9 Ceiling Fan (52 inch) 10 Vinyl Electrical Tape (20 ft roll) 11 GFI Tester Choose a Item Number: 9	27.95	6				
10 Vinyl Electrical Tape (20 ft roll) 11 GFI Tester 22 records. Command: a Choose a Item Number: 7 Now many parts to add? 5 Command: p Stem Num Description O Pump 1 Gasket 2 Water Level Guage 3 Faucet Repair Kit 4 Teflon Thread Seal Tape (50 ft roll) 5 shutoff valve 6 Cable 7 Extension Cord (14/3, 25 ft) 8 Light switch (15 amp) 9 Ceiling Fan (52 inch) 10 Vinyl Electrical Tape (20 ft roll) 11 GFI Tester 22 records. Command: r Choose a Item Number: 9	2.79	10				
11 GFI Tester 22 records. Command: a Choose a Item Number: 7 How many parts to add? 5 Command: p Stem Num Description O Pump 1 Gasket 2 Water Level Guage 3 Faucet Repair Kit 4 Teflon Thread Seal Tape (50 ft roll) 5 shutoff valve 6 Cable 7 Extension Cord (14/3, 25 ft) 8 Light switch (15 amp) 9 Ceiling Fan (52 inch) 10 Vinyl Electrical Tape (20 ft roll) 11 GFI Tester Choose a Item Number: 9	79.95	3				
Choose a Item Number: 7 How many parts to add? 5 Command: p Ctem Num Description O Pump Gasket Water Level Guage Faucet Repair Kit Teflon Thread Seal Tape (50 ft roll) shutoff valve Cable Extension Cord (14/3, 25 ft) Light switch (15 amp) Ceiling Fan (52 inch) Univyl Electrical Tape (20 ft roll) Grommand: r Choose a Item Number: 9	0.79	30				
Choose a Item Number: 7 Item Num Description O Pump Gasket Water Level Guage Faucet Repair Kit Teflon Thread Seal Tape (50 ft roll) shutoff valve Cable Extension Cord (14/3, 25 ft) Light switch (15 amp) Ceiling Fan (52 inch) Vinyl Electrical Tape (20 ft roll) Grimmand: r Choose a Item Number: 9	9.35	5				
Choose a Item Number: 7 Item Num Description Pump Gasket Water Level Guage Faucet Repair Kit Teflon Thread Seal Tape (50 ft roll) shutoff valve Cable Extension Cord (14/3, 25 ft) Light switch (15 amp) Ceiling Fan (52 inch) Vinyl Electrical Tape (20 ft roll) GFI Tester Choose a Item Number: 9						
Towmand: p Stem Num Description O Pump Gasket Water Level Guage Faucet Repair Kit Teflon Thread Seal Tape (50 ft roll) shutoff valve Cable Extension Cord (14/3, 25 ft) Light switch (15 amp) Ceiling Fan (52 inch) Winyl Electrical Tape (20 ft roll) GFI Tester Choose a Item Number: 9						
Command: p Item Num Description O Pump Gasket Water Level Guage Faucet Repair Kit Teflon Thread Seal Tape (50 ft roll) shutoff valve Cable Extension Cord (14/3, 25 ft) Light switch (15 amp) Ceiling Fan (52 inch) Vinyl Electrical Tape (20 ft roll) GFI Tester Choose a Item Number: 9						
Command: p Stem Num Description O Pump Gasket Water Level Guage Faucet Repair Kit Teflon Thread Seal Tape (50 ft roll) shutoff valve Cable Extension Cord (14/3, 25 ft) Light switch (15 amp) Ceiling Fan (52 inch) Vinyl Electrical Tape (20 ft roll) GFI Tester Choose a Item Number: 9						
Description O Pump Gasket Water Level Guage Faucet Repair Kit Teflon Thread Seal Tape (50 ft roll) shutoff valve Cable Extension Cord (14/3, 25 ft) Light switch (15 amp) Ceiling Fan (52 inch) Uinyl Electrical Tape (20 ft roll) GFI Tester Choose a Item Number: 9						
O Pump 1 Gasket 2 Water Level Guage 3 Faucet Repair Kit 4 Teflon Thread Seal Tape (50 ft roll) 5 shutoff valve 6 Cable 7 Extension Cord (14/3, 25 ft) 8 Light switch (15 amp) 9 Ceiling Fan (52 inch) 10 Vinyl Electrical Tape (20 ft roll) 11 GFI Tester 2 records. Command: r Choose a Item Number: 9						
1 Gasket 2 Water Level Guage 3 Faucet Repair Kit 4 Teflon Thread Seal Tape (50 ft roll) 5 shutoff valve 6 Cable 7 Extension Cord (14/3, 25 ft) 8 Light switch (15 amp) 9 Ceiling Fan (52 inch) 10 Vinyl Electrical Tape (20 ft roll) 11 GFI Tester 2 records. Command: r	Cost	Quantity				
Water Level Guage Faucet Repair Kit Teflon Thread Seal Tape (50 ft roll) shutoff valve Cable Extension Cord (14/3, 25 ft) Light switch (15 amp) Ceiling Fan (52 inch) Vinyl Electrical Tape (20 ft roll) GFI Tester Choose a Item Number: 9	39.00	20				
3 Faucet Repair Kit 4 Teflon Thread Seal Tape (50 ft roll) 5 shutoff valve 6 Cable 7 Extension Cord (14/3, 25 ft) 8 Light switch (15 amp) 9 Ceiling Fan (52 inch) 10 Vinyl Electrical Tape (20 ft roll) 11 GFI Tester .2 records. Command: r Choose a Item Number: 9	1.50	29				
4 Teflon Thread Seal Tape (50 ft roll) 5 shutoff valve 6 Cable 7 Extension Cord (14/3, 25 ft) 8 Light switch (15 amp) 9 Ceiling Fan (52 inch) 10 Vinyl Electrical Tape (20 ft roll) 11 GFI Tester 2 records. command: r Choose a Item Number: 9	12.99	30				
5 shutoff valve 6 Cable 7 Extension Cord (14/3, 25 ft) 8 Light switch (15 amp) 9 Ceiling Fan (52 inch) 10 Vinyl Electrical Tape (20 ft roll) 11 GFI Tester 2 records. command: r Choose a Item Number: 9	4.89	8				
6 Cable 7 Extension Cord (14/3, 25 ft) 8 Light switch (15 amp) 9 Ceiling Fan (52 inch) 10 Vinyl Electrical Tape (20 ft roll) 11 GFI Tester 2 records. command: r Choose a Item Number: 9	3.30	12				
7 Extension Cord (14/3, 25 ft) 8 Light switch (15 amp) 9 Ceiling Fan (52 inch) 10 Vinyl Electrical Tape (20 ft roll) 11 GFI Tester 2 records. command: r Choose a Item Number: 9	6.50	10				
8 Light switch (15 amp) 9 Ceiling Fan (52 inch) 10 Vinyl Electrical Tape (20 ft roll) 11 GFI Tester 2 records. ommand: r hoose a Item Number: 9	5.00	18				
9 Ceiling Fan (52 inch) 10 Vinyl Electrical Tape (20 ft roll) 11 GFI Tester 2 records. ommand: r hoose a Item Number: 9	27.95	11				
10 Vinyl Electrical Tape (20 ft roll) 11 GFI Tester 2 records. ommand: r hoose a Item Number: 9	2.79	10				
11 GFI Tester 2 records. ommand: r hoose a Item Number: 9	79.95	3				
2 records. ommand: r hoose a Item Number: 9	0.79	30				
ommand: r hoose a Item Number: 9	9.35	5				
hoose a Item Number: 9						
low many narte to remeved 7						
Now many parts to remove? 5						
Error: You are attempting to remove more parts than the Command: $oldsymbol{r}$	ne Item curr	cently holds.				
Choose a Item Number: 9						
How many parts to remove? 3						

Command: P	Sample Interactive Session					
Name	Command: p					
1 Gasket 1.50 29 2 Water Level Guage 12.99 30 3 Faucet Repair Kit 4.89 8 4 Teflon Thread Seal Tape (50 ft roll) 3.30 12 5 shutoff valve 6.50 10 6 Cable 5.00 18 7 Extension Cord (14/3, 25 ft) 27.95 11 8 Light switch (15 amp) 2.79 10 9 Ceiling Fan (52 inch) 79.95 0 10 Vinyl Electrical Tape (20 ft roll) 0.79 30 11 GFI Tester 9.35 5 12 records. Command: O Enter name of output file: testData01.txt 12 records written to file. Command: D Enter name of input file: testData01.txt 12 records loaded to array. Command: D Item Num Description Cost Quantity O Pump 39.00 20 1 Gasket 1.50 29 2 Water Level Guage 12.99 30 3 Faucet Repair Kit 4.89 8 4 Teflon Thread Seal Tape (50 ft roll) 3.30 12 5 shutoff valve 6.50 10 6 Cable 5.00 18 7 Extension Cord (14/3, 25 ft) 27.95 11 8 Light switch (15 amp) 2.79 10 9 Ceiling Fan (52 inch) 79.95 0 10 Vinyl Electrical Tape (20 ft roll) 0.79 30 11 GFI Tester 9.35 5 12 Pump 39.00 20 13 Gasket 1.50 29 14 Water Level Guage 12.99 30 15 Faucet Repair Kit 4.89 8 16 Teflon Thread Seal Tape (50 ft roll) 0.79 30 11 GFI Tester 9.35 5 12 Pump 39.00 20 13 Gasket 1.50 29 14 Water Level Guage 12.99 30 15 Faucet Repair Kit 4.89 8 16 Teflon Thread Seal Tape (50 ft roll) 0.79 30 11 GFI Tester 9.35 5 12 Pump 39.00 20 13 Gasket 1.50 29 14 Water Level Guage 12.99 30 15 Faucet Repair Kit 4.89 8 16 Teflon Thread Seal Tape (50 ft roll) 3.30 12 17 shutoff valve 6.50 10 18 Cable 7.00 18 19 Extension Cord (14/3, 25 ft) 7.95 11	Item Num	Description	Cost	Quantity		
1 Gasket 1.50 29 2 Water Level Guage 12.99 30 3 Faucet Repair Kit 4.89 8 4 Teflon Thread Seal Tape (50 ft roll) 3.30 12 5 shutoff valve 6.50 10 6 Cable 5.00 18 7 Extension Cord (14/3, 25 ft) 27.95 11 8 Light switch (15 amp) 2.79 10 9 Ceiling Fan (52 inch) 79.95 0 10 Vinyl Electrical Tape (20 ft roll) 0.79 30 11 GFI Tester 9.35 5 12 records. Command: O Enter name of output file: testData01.txt 12 records written to file. Command: D Enter name of input file: testData01.txt 12 records loaded to array. Command: D Item Num Description Cost Quantity O Pump 39.00 20 1 Gasket 1.50 29 2 Water Level Guage 12.99 30 3 Faucet Repair Kit 4.89 8 4 Teflon Thread Seal Tape (50 ft roll) 3.30 12 5 shutoff valve 6.50 10 6 Cable 5.00 18 7 Extension Cord (14/3, 25 ft) 27.95 11 8 Light switch (15 amp) 2.79 10 9 Ceiling Fan (52 inch) 79.95 0 10 Vinyl Electrical Tape (20 ft roll) 0.79 30 11 GFI Tester 9.35 5 12 Pump 39.00 20 13 Gasket 1.50 29 14 Water Level Guage 12.99 30 15 Faucet Repair Kit 4.89 8 16 Teflon Thread Seal Tape (50 ft roll) 0.79 30 11 GFI Tester 9.35 5 12 Pump 39.00 20 13 Gasket 1.50 29 14 Water Level Guage 12.99 30 15 Faucet Repair Kit 4.89 8 16 Teflon Thread Seal Tape (50 ft roll) 0.79 30 11 GFI Tester 9.35 5 12 Pump 39.00 20 13 Gasket 1.50 29 14 Water Level Guage 12.99 30 15 Faucet Repair Kit 4.89 8 16 Teflon Thread Seal Tape (50 ft roll) 3.30 12 17 shutoff valve 6.50 10 18 Cable 7.00 18 19 Extension Cord (14/3, 25 ft) 7.95 11	0		39.00	20		
3		-				
Second Repair Kit 4,89 8 4 Teflon Thread Seal Tape (50 ft roll) 3.30 12 5 Shutoff valve 6.50 10 6 Cable 5.00 18 7 Extension Cord (14/3, 25 ft) 27.95 11 8 Light switch (15 amp) 2.79 10 9 Ceiling Fan (52 inch) 79.95 0 10 Vinyl Electrical Tape (20 ft roll) 0.79 30 11 GFI Tester 9.35 5 5 12 records. Second Repair						
4 Teflon Thread Seal Tape (50 ft roll) 3.30 12 5 shutoff valve 6.50 10 6 Cable 5.00 18 7 Extension Cord (14/3, 25 ft) 27.95 11 8 Light switch (15 amp) 2.79 10 9 Ceiling Fan (52 inch) 79.95 0 10 Vinyl Electrical Tape (20 ft roll) 0.79 30 11 GFI Tester 9.35 5 12 records. Command: 0 Enter name of output file: testData01.txt 12 records written to file. Command: 1 Enter name of input file: testData01.txt 12 records loaded to array. Command: p Item Num Description Cost Quantity 0 Pump 39.00 20 1 Gasket 1.50 29 2 Water Level Guage 12.99 30 3 Faucet Repair Kit 4.89 8 4 Teflon Thread Seal Tape (50 ft roll) 3.30 12 5 shutoff valve 6.50 10 6 Cable 5.00 18 8 Light switch (15 amp) 2.79 10 9 Ceiling Fan (52 inch) 79.95 0 10 Vinyl Electrical Tape (20 ft roll) 0.79 30 11 GFI Tester 9.35 5 12 Pump 39.00 20 13 Gasket 1.50 29 9 Ceiling Fan (52 inch) 79.95 0 10 Vinyl Electrical Tape (20 ft roll) 0.79 30 11 GFI Tester 9.35 5 12 Pump 39.00 20 13 Gasket 1.50 29 14 Water Level Guage 12.99 30 15 Faucet Repair Kit 4.89 8 16 Teflon Thread Seal Tape (50 ft roll) 0.79 30 11 GFI Tester 9.35 5 12 Pump 39.00 20 13 Gasket 1.50 29 14 Water Level Guage 12.99 30 15 Faucet Repair Kit 4.89 8 16 Teflon Thread Seal Tape (50 ft roll) 3.30 12 17 shutoff valve 6.50 10 18 Cable 7.99 11		-	4.89	8		
6 Cable 7 Extension Cord (14/3, 25 ft) 27.95 11 8 Light switch (15 amp) 2.79 10 9 Ceiling Fan (52 inch) 79.95 0 10 Vinyl Electrical Tape (20 ft roll) 0.79 30 11 GFI Tester 9.35 5 12 records. Command: O Enter name of output file: testDataOl.txt 12 records written to file. Command: i Enter name of input file: testDataOl.txt 12 records loaded to array. Command: p Item Num Description Cost Quantity O Pump 39.00 20 1 Gasket 1.50 29 2 Water Level Guage 12.99 30 3 Faucet Repair Kit 4.89 8 4 Teflon Thread Seal Tape (50 ft roll) 3.30 12 5 shutoff valve 6.50 10 6 Cable 5.00 18 7 Extension Cord (14/3, 25 ft) 27.95 11 8 Light switch (15 amp) 2.79 10 9 Ceiling Fan (52 inch) 79.95 0 10 Vinyl Electrical Tape (20 ft roll) 0.79 30 11 GFI Tester 9.35 5 12 Pump 39.00 20 13 Gasket 1.50 29 14 Water Level Guage 12.99 30 15 Faucet Repair Kit 4.89 8 16 FI Tester 9.35 5 17 Pump 39.00 20 18 Gasket 1.50 29 19 Firster 9.35 5 10 Pump 39.00 20 11 GFI Tester 9.35 5 12 Pump 39.00 20 13 Gasket 1.50 29 14 Water Level Guage 12.99 30 15 Faucet Repair Kit 4.89 8 16 Teflon Thread Seal Tape (50 ft roll) 3.30 12 17 shutoff valve 6.50 10 18 Cable 5.00 18 19 Extension Cord (14/3, 25 ft) 5.00 18 19 Extension Cord (14/3, 25 ft) 5.00 18	4		3.30	12		
7 Extension Cord (14/3, 25 ft) 27.95 11 8 Light switch (15 amp) 2.79 10 9 Ceiling Fan (52 inch) 79.95 0 10 Vinyl Electrical Tape (20 ft roll) 0.79 30 11 GFI Tester 9.35 5 12 records. Command: O Enter name of output file: testDataOl.txt 12 records written to file. Command: i Enter name of input file: testDataOl.txt 12 records loaded to array. Command: P Item Num Description Cost Quantity O Pump 39.00 20 1 Gasket 1.50 29 2 Water Level Guage 12.99 30 3 Faucet Repair Kit 4.89 8 4 Teflon Thread Seal Tape (50 ft roll) 3.30 12 5 shutoff valve 6.50 10 6 Cable 5.00 18 7 Extension Cord (14/3, 25 ft) 2.79 11 8 Light switch (15 amp) 2.79 10 9 Ceiling Fan (52 inch) 79.95 0 10 Vinyl Electrical Tape (20 ft roll) 0.79 30 11 GFI Tester 9.35 5 12 Pump 39.00 20 13 Gasket 1.50 29 14 Water Level Guage 12.99 30 15 Faucet Repair Kit 79.95 11 8 Light switch (15 amp) 2.79 10 9 Ceiling Fan (52 inch) 79.95 0 10 Vinyl Electrical Tape (20 ft roll) 0.79 30 11 GFI Tester 9.35 5 12 Pump 39.00 20 13 Gasket 1.50 29 14 Water Level Guage 12.99 30 15 Faucet Repair Kit 4.89 8 16 Teflon Thread Seal Tape (50 ft roll) 3.30 12 17 shutoff valve 6.50 10 18 Cable 5.00 18 19 Extension Cord (14/3, 25 ft) 5.00 18 19 Extension Cord (14/3, 25 ft) 5.00 18	5	shutoff valve	6.50	10		
8	6	Cable	5.00	18		
9		Extension Cord (14/3, 25 ft)		11		
10				10		
11 GFI Tester 9.35 5 12 records. Command: O Enter name of output file: testData01.txt 12 records written to file. Command: i Enter name of input file: testData01.txt 12 records loaded to array. Command: p Item Num Description Cost Quantity O Pump 39.00 20 1 Gasket 1.50 29 2 Water Level Guage 12.99 30 3 Faucet Repair Kit 4.89 8 4 Teflon Thread Seal Tape (50 ft roll) 3.30 12 5 shutoff valve 6.50 10 6 Cable 5.00 18 7 Extension Cord (14/3, 25 ft) 27.95 11 8 Light switch (15 amp) 2.79 10 9 Ceiling Fan (52 inch) 79.95 0 10 Vinyl Electrical Tape (20 ft roll) 0.79 30 11 GFI Tester 9.35 5 12 Pump 39.00 20 13 Gasket 1.50 29 14 Water Level Guage 1.50 29 14 Water Level Guage 1.50 29 15 Faucet Repair Kit 4.89 8 16 Teflon Thread Seal Tape (50 ft roll) 3.30 12 17 shutoff valve 6.50 10 18 Tester 9.35 5 19 Saket 1.50 29 14 Water Level Guage 1.50 29 15 Faucet Repair Kit 4.89 8 16 Teflon Thread Seal Tape (50 ft roll) 3.30 12 17 shutoff valve 6.50 10 18 Cable 5.00 18 19 Extension Cord (14/3, 25 ft) 27.95 11	9			0		
Command: O						
Command: O Enter name of output file: testDataO1.txt 12 records written to file. Command: i Enter name of input file: testDataO1.txt 12 records loaded to array. Command: p Item Num Description Cost Quantity O Pump 39.00 20 1 Gasket 1.50 29 2 Water Level Guage 12.99 30 3 Faucet Repair Kit 4.89 8 4 Teflon Thread Seal Tape (50 ft roll) 3.30 12 5 shutoff valve 6.50 10 6 Cable 5.00 18 7 Extension Cord (14/3, 25 ft) 27.95 11 8 Light switch (15 amp) 2.79 10 9 Ceiling Fan (52 inch) 79.95 0 10 Vinyl Electrical Tape (20 ft roll) 0.79 30 11 GFI Tester 9.35 5 12 Pump 39.00 20 13 Gasket 1.50 29 14 Water Level Guage 1.50 ft roll) 0.79 30 15 Faucet Repair Kit 4.89 8 16 Teflon Thread Seal Tape (50 ft roll) 0.79 30 17 shutoff valve 6.50 10 18 Gasket 1.50 29 19 Agency Seal Tape (20 ft roll) 0.79 30 10 Seal Tester 9.35 5 11 Seal Tester 9.35 5 12 Pump 9.39.00 20 13 Gasket 1.50 29 14 Water Level Guage 12.99 30 15 Faucet Repair Kit 4.89 8 16 Teflon Thread Seal Tape (50 ft roll) 3.30 12 17 shutoff valve 6.50 10 18 Cable 5.00 18			9.35	5		
Enter name of output file: testData01.txt 12 records written to file. Command: i Enter name of input file: testData01.txt 12 records loaded to array. Command: p Item Num Description Cost Quantity	12 records					
12 records written to file. Command: i Enter name of input file: testData01.txt 12 records loaded to array. Command: p Item Num	Command: O					
Command: i Enter name of input file: testData01.txt 12 records loaded to array. Command: p Item Num						
Enter name of input file: testData01.txt 12 records loaded to array. Command: p Item Num	12 records	written to file.				
12 records loaded to array. Command: P	Command: i					
12 records loaded to array. Command: p	Enter name	of input file: testData01.txt				
Command: P						
0 Pump 39.00 20 1 Gasket 1.50 29 2 Water Level Guage 12.99 30 3 Faucet Repair Kit 4.89 8 4 Teflon Thread Seal Tape (50 ft roll) 3.30 12 5 shutoff valve 6.50 10 6 Cable 5.00 18 7 Extension Cord (14/3, 25 ft) 27.95 11 8 Light switch (15 amp) 2.79 10 9 Ceiling Fan (52 inch) 79.95 0 10 Vinyl Electrical Tape (20 ft roll) 0.79 30 11 GFI Tester 9.35 5 12 Pump 39.00 20 13 Gasket 1.50 29 14 Water Level Guage 12.99 30 15 Faucet Repair Kit 4.89 8 16 Teflon Thread Seal Tape (50 ft roll) 3.30 12 17 shutoff valve 6.50 10 18 Cable 5.00 18						
1 Gasket 1.50 29 2 Water Level Guage 12.99 30 3 Faucet Repair Kit 4.89 8 4 Teflon Thread Seal Tape (50 ft roll) 3.30 12 5 shutoff valve 6.50 10 6 Cable 5.00 18 7 Extension Cord (14/3, 25 ft) 27.95 11 8 Light switch (15 amp) 2.79 10 9 Ceiling Fan (52 inch) 79.95 0 10 Vinyl Electrical Tape (20 ft roll) 0.79 30 11 GFI Tester 9.35 5 12 Pump 39.00 20 13 Gasket 1.50 29 14 Water Level Guage 12.99 30 15 Faucet Repair Kit 4.89 8 16 Teflon Thread Seal Tape (50 ft roll) 3.30 12 17 shutoff valve 6.50 10 18 Cable 5.00 18 19 Extension Cord (14/3, 25 ft) 27.95 11	Item Num	Description	Cost	Quantity		
1 Gasket 1.50 29 2 Water Level Guage 12.99 30 3 Faucet Repair Kit 4.89 8 4 Teflon Thread Seal Tape (50 ft roll) 3.30 12 5 shutoff valve 6.50 10 6 Cable 5.00 18 7 Extension Cord (14/3, 25 ft) 27.95 11 8 Light switch (15 amp) 2.79 10 9 Ceiling Fan (52 inch) 79.95 0 10 Vinyl Electrical Tape (20 ft roll) 0.79 30 11 GFI Tester 9.35 5 12 Pump 39.00 20 13 Gasket 1.50 29 14 Water Level Guage 12.99 30 15 Faucet Repair Kit 4.89 8 16 Teflon Thread Seal Tape (50 ft roll) 3.30 12 17 shutoff valve 6.50 10 18 Cable 5.00 18 19 Extension Cord (14/3, 25 ft) 27.95 11		Dump	39 00	20		
2 Water Level Guage 12.99 30 3 Faucet Repair Kit 4.89 8 4 Teflon Thread Seal Tape (50 ft roll) 3.30 12 5 shutoff valve 6.50 10 6 Cable 5.00 18 7 Extension Cord (14/3, 25 ft) 27.95 11 8 Light switch (15 amp) 2.79 10 9 Ceiling Fan (52 inch) 79.95 0 10 Vinyl Electrical Tape (20 ft roll) 0.79 30 11 GFI Tester 9.35 5 12 Pump 39.00 20 13 Gasket 1.50 29 14 Water Level Guage 12.99 30 15 Faucet Repair Kit 4.89 8 16 Teflon Thread Seal Tape (50 ft roll) 3.30 12 17 shutoff valve 6.50 10 18 Cable 5.00 18 19 Extension Cord (14/3, 25 ft) 27.95 11						
3 Faucet Repair Kit 4.89 8 4 Teflon Thread Seal Tape (50 ft roll) 3.30 12 5 shutoff valve 6.50 10 6 Cable 5.00 18 7 Extension Cord (14/3, 25 ft) 27.95 11 8 Light switch (15 amp) 2.79 10 9 Ceiling Fan (52 inch) 79.95 0 10 Vinyl Electrical Tape (20 ft roll) 0.79 30 11 GFI Tester 9.35 5 12 Pump 39.00 20 13 Gasket 1.50 29 14 Water Level Guage 12.99 30 15 Faucet Repair Kit 4.89 8 16 Teflon Thread Seal Tape (50 ft roll) 3.30 12 17 shutoff valve 6.50 10 18 Cable 5.00 18 19 Extension Cord (14/3, 25 ft) 27.95 11						
4 Teflon Thread Seal Tape (50 ft roll) 3.30 12 5 shutoff valve 6.50 10 6 Cable 5.00 18 7 Extension Cord (14/3, 25 ft) 27.95 11 8 Light switch (15 amp) 2.79 10 9 Ceiling Fan (52 inch) 79.95 0 10 Vinyl Electrical Tape (20 ft roll) 0.79 30 11 GFI Tester 9.35 5 12 Pump 39.00 20 13 Gasket 1.50 29 14 Water Level Guage 12.99 30 15 Faucet Repair Kit 4.89 8 16 Teflon Thread Seal Tape (50 ft roll) 3.30 12 17 shutoff valve 6.50 10 18 Cable 5.00 18 19 Extension Cord (14/3, 25 ft) 27.95 11		-				
5 shutoff valve 6.50 10 6 Cable 5.00 18 7 Extension Cord (14/3, 25 ft) 27.95 11 8 Light switch (15 amp) 2.79 10 9 Ceiling Fan (52 inch) 79.95 0 10 Vinyl Electrical Tape (20 ft roll) 0.79 30 11 GFI Tester 9.35 5 12 Pump 39.00 20 13 Gasket 1.50 29 14 Water Level Guage 12.99 30 15 Faucet Repair Kit 4.89 8 16 Teflon Thread Seal Tape (50 ft roll) 3.30 12 17 shutoff valve 6.50 10 18 Cable 5.00 18 19 Extension Cord (14/3, 25 ft) 27.95 11		-				
6 Cable 5.00 18 7 Extension Cord (14/3, 25 ft) 27.95 11 8 Light switch (15 amp) 2.79 10 9 Ceiling Fan (52 inch) 79.95 0 10 Vinyl Electrical Tape (20 ft roll) 0.79 30 11 GFI Tester 9.35 5 12 Pump 39.00 20 13 Gasket 1.50 29 14 Water Level Guage 12.99 30 15 Faucet Repair Kit 4.89 8 16 Teflon Thread Seal Tape (50 ft roll) 3.30 12 17 shutoff valve 6.50 10 18 Cable 5.00 18 19 Extension Cord (14/3, 25 ft) 27.95 11	5	-		10		
8 Light switch (15 amp) 2.79 10 9 Ceiling Fan (52 inch) 79.95 0 10 Vinyl Electrical Tape (20 ft roll) 0.79 30 11 GFI Tester 9.35 5 12 Pump 39.00 20 13 Gasket 1.50 29 14 Water Level Guage 12.99 30 15 Faucet Repair Kit 4.89 8 16 Teflon Thread Seal Tape (50 ft roll) 3.30 12 17 shutoff valve 6.50 10 18 Cable 5.00 18 19 Extension Cord (14/3, 25 ft) 27.95 11	6	Cable	5.00	18		
9	7	Extension Cord (14/3, 25 ft)	27.95			
10 Vinyl Electrical Tape (20 ft roll) 0.79 30 11 GFI Tester 9.35 5 12 Pump 39.00 20 13 Gasket 1.50 29 14 Water Level Guage 12.99 30 15 Faucet Repair Kit 4.89 8 16 Teflon Thread Seal Tape (50 ft roll) 3.30 12 17 shutoff valve 6.50 10 18 Cable 5.00 18 19 Extension Cord (14/3, 25 ft) 27.95	8	Light switch (15 amp)	2.79	10		
11 GFI Tester 9.35 5 12 Pump 39.00 20 13 Gasket 1.50 29 14 Water Level Guage 12.99 30 15 Faucet Repair Kit 4.89 8 16 Teflon Thread Seal Tape (50 ft roll) 3.30 12 17 shutoff valve 6.50 10 18 Cable 5.00 18 19 Extension Cord (14/3, 25 ft) 27.95 11	9	Ceiling Fan (52 inch)	79.95			
12 Pump 39.00 20 13 Gasket 1.50 29 14 Water Level Guage 12.99 30 15 Faucet Repair Kit 4.89 8 16 Teflon Thread Seal Tape (50 ft roll) 3.30 12 17 shutoff valve 6.50 10 18 Cable 5.00 18 19 Extension Cord (14/3, 25 ft) 27.95 11						
13 Gasket 1.50 29 14 Water Level Guage 12.99 30 15 Faucet Repair Kit 4.89 8 16 Teflon Thread Seal Tape (50 ft roll) 3.30 12 17 shutoff valve 6.50 10 18 Cable 5.00 18 19 Extension Cord (14/3, 25 ft) 27.95 11						
14 Water Level Guage 12.99 30 15 Faucet Repair Kit 4.89 8 16 Teflon Thread Seal Tape (50 ft roll) 3.30 12 17 shutoff valve 6.50 10 18 Cable 5.00 18 19 Extension Cord (14/3, 25 ft) 27.95 11		-				
15 Faucet Repair Kit 4.89 8 16 Teflon Thread Seal Tape (50 ft roll) 3.30 12 17 shutoff valve 6.50 10 18 Cable 5.00 18 19 Extension Cord (14/3, 25 ft) 27.95 11						
16 Teflon Thread Seal Tape (50 ft roll) 3.30 12 17 shutoff valve 6.50 10 18 Cable 5.00 18 19 Extension Cord (14/3, 25 ft) 27.95 11		-				
17 shutoff valve 6.50 10 18 Cable 5.00 18 19 Extension Cord (14/3, 25 ft) 27.95 11		-				
18 Cable 5.00 18 19 Extension Cord (14/3, 25 ft) 27.95 11						
19 Extension Cord (14/3, 25 ft) 27.95 11						
$\Delta = \Delta =$						
21 Ceiling Fan (52 inch) 79.95 0						

	Sample Interactive Session			
0	Pump	39.00	20	
1	Gasket	1.50	29	
2	Water Level Guage	12.99	30	
3	Faucet Repair Kit	4.89	8	
4	Teflon Thread Seal Tape (50 ft roll)	3.30	12	
5	shutoff valve	6.50	10	
6	Cable	5.00	18	
7	Extension Cord (14/3, 25 ft)	27.95	11	
8	Light switch (15 amp)	2.79	10	
9	Ceiling Fan (52 inch)	79.95	0	
10	Vinyl Electrical Tape (20 ft roll)	0.79	30	
11	GFI Tester	9.35	5	
12	Pump	39.00	20	
13	Gasket	1.50	29	
14	Water Level Guage	12.99	30	
15	Faucet Repair Kit	4.89	8	
16	Teflon Thread Seal Tape (50 ft roll)	3.30	12	
17	shutoff valve	6.50	10	
18	Cable	5.00	18	
19	Extension Cord (14/3, 25 ft)	27.95	11	
20	Light switch (15 amp)	2.79	10	
21	Ceiling Fan (52 inch)	79.95	0	
22	Vinyl Electrical Tape (20 ft roll)	0.79	30	
23	GFI Tester	9.35	5	
24	Broom	9.99	12	
25	Dust Pan	5.99	5	
26 20000	ما م			

26 records.

Command: O

Enter name of output file: testData02.txt

26 records written to file.

Command: n

Enter description for new Item: Gasoline Can

Enter unit cost for new Item: 8.99

Enter initial quantity for the new Item: 34

ERROR: initial quantity must be >= zero and <= 30.

Enter initial quantity for the new Item: 29

Announcing a new inventory Item: Gasoline Can

We now have 27 different inventory Items in stock!

Command: **p**

Item Num	Description	Cost	Quantity
0	Pump	39.00	20
1	Gasket	1.50	29
2	Water Level Guage	12.99	30
3	Faucet Repair Kit	4.89	8
4	Teflon Thread Seal Tape (50 ft roll)	3.30	12
5	shutoff valve	6.50	10
6	Cable	5.00	18
7	Extension Cord (14/3, 25 ft)	27.95	11

	Sample Interactive Session		
8	Light switch (15 amp)	2.79	10
9	Ceiling Fan (52 inch)	79.95	0
10	Vinyl Electrical Tape (20 ft roll)	0.79	30
11	GFI Tester	9.35	5
12	Pump	39.00	20
13	Gasket	1.50	29
14	Water Level Guage	12.99	30
15	Faucet Repair Kit	4.89	8
16	Teflon Thread Seal Tape (50 ft roll)	3.30	12
17	shutoff valve	6.50	10
18	Cable	5.00	18
19	Extension Cord (14/3, 25 ft)	27.95	11
20	Light switch (15 amp)	2.79	10
21	Ceiling Fan (52 inch)	79.95	0
22	Vinyl Electrical Tape (20 ft roll)	0.79	30
23	GFI Tester	9.35	5
24	Broom	9.99	12
25	Dust Pan	5.99	5
26	Gasoline Can	8.99	29
27 records		0.33	
Command: i			
7 records Command: i Enter name 4 records	of input file: miscellaneous.txt loaded to array.		
Command: p Item Num	Description	Cost	Quantity
0	Dump	39.00	20
1	Pump Gasket	1.50	29
_		12.99	30
2 3	Water Level Guage	4.89	8
4	Faucet Repair Kit	3.30	
5	Teflon Thread Seal Tape (50 ft roll) shutoff valve	6.50	12 10
6	Cable	5.00	18
7	Extension Cord (14/3, 25 ft)	27.95	11
8	Light switch (15 amp)		10
9		2.79	
	Ceiling Fan (52 inch)	79.95	0
10	Vinyl Electrical Tape (20 ft roll)	0.79	30
11	GFI Tester	9.35 39.00	5
12	Pump		20
13 14	Gasket	1.50 12.99	29
	Water Level Guage		30
15	Faucet Repair Kit	4.89	8
16	Teflon Thread Seal Tape (50 ft roll)	3.30	12
17	shutoff valve	6.50	10
18	Cable	5.00	18
19	Extension Cord (14/3, 25 ft)	27.95	11
20	Light switch (15 amp)	2.79	10

	Sample Interactive Session	1	
21	Ceiling Fan (52 inch)	79.95	0
22	Vinyl Electrical Tape (20 ft roll)	0.79	30
23	GFI Tester	9.35	5
24	Broom	9.99	12
25	Dust Pan	5.99	5
26	Gasoline Can	8.99	29
27	Turnbuckle	3.80	25
28	Siding nails (box of 100)	4.00	20
29	Flat washer (box of 100)	2.80	30
30	Machine screw (box of 100)	3.20	10
31	Hex bolt (box of 100)	6.50	23
32	Hex nut (box of 100)	3.80	15
33	Sheet Metal Screw (qty 100)	1.50	28
34	Door Hinges (3-pack)	6.30	10
35	Rubber work boots (1 pair)	28.00	5
36	Leather Work Gloves (1 pair)	12.00	8
37	Long Handle Grass Shear	30.00	5
38 recor	ds.		
Command:	0		
Enter na	me of output file: testData03.txt		
	ds written to file.		
Command:	4		
Exit.			

Project Deliverables:

The project source file(s) must be submitted to *Moodle*, using the *Moodle* Activity: CSC237 Project2

Submit your .cpp file(s) and any .h file(s) that you create. I will need to compile your code on my home computer in order to grade it. If you are submitting more than one file (.cpp and/or .h), do not enclose the files in a ZIP file. *Moodle* will allow you to submit multiple source files. For example:

Do *not* submit the entire *Visual Studio* project.

Do *not* include the project folders, or any binary files.

Grading Criteria

The project will be graded according to the following grading criteria:

	Feature	Portion of grade
1.	The program functions correctly.	60%
2.	In the main function of the program, there is a loop that contains code to support the following input commands:	3%
	a Add parts. h print Help text. i Input inventory data from a file. n New inventory Item. o Output inventory data to a file. p Print inventory list. q quit (end the program). r Remove parts.	
	The code for <i>each</i> command is a call to a function that does the actual work of that command.	
3.	The "command loop" in the main function must continue until the user enters a ' q ' command.	2%
4.	Each command must call a separate function. That is, the "main" function must not be excessively long. Do NOT put an excessive amount of code in the main function or any other function. The main function must be primarily a loop that inputs each user command and <i>calls other functions</i> to implement those commands.	10%
5.	The program is clearly organized and commented so that it is easy to read and understand. At a <u>minimum</u> , there must be a comment at the beginning of each function that explains what that function does. Use your judgement regarding any additional comments that may be needed to make the program easy to understand, without over-commenting the program. (As you get more experience, your judgement about this will improve.)	10%
6.	Use good variable names and function names: • A variable name or function name must indicate something about what that variable or function does in the program. • Variable names and function names must be not too short and not too long.	5%
7.	Place a brief summary of the program in comments at the beginning of each source file that you create. Also be sure these comments have your name and the due-date for the project.	5%
8.	Cleanup any unused portions of code, such as "failed attempts" that you later replaced.	3%
9.	Cleanup any irrelevant comments	2%
	Total:	100%

Project 2: Inventory

Copyright © 2025 Peter Morgan. All rights reserved. You may **not** share this document with anyone or use it in any way other than as a participant in this course.