



Mejiazon Prime

Due Dates

1. Document containing pseudocode - Due February 22, via Blackboard. Review your pseudocode with a member of the instruction team in lab or office hours no later than February 25.
2. Java Program – Due March 1 via Blackboard. Demo to a member of the instruction team during labs or office hours no later than March 4.

Objective: You will implement a simple user interface using scanner and handle user input commands with conditionals, iterations, and file reading.

Description: Your goal is to create an interactive user interface emulating a simple checkout experience, much like you might experience while buying products online on Amazon. A user will be able to:

1. add items to their cart
2. view their cart
3. clear their cart
4. checkout with their cart
5. exit the program

NOTE:

Before you get started, read this entire document. If anything is unclear, don't hesitate to come to your instructor, TA, IAs, or Peer Leader for help or clarification. We will be happy to help you.

Your program should have the following features:

1. Products (and their prices) that can be added to a user's cart will be stored in a file called "product-database.txt". We will provide an example version of this file you can use.
 - a. Each line is guaranteed to have a product name and its price separated by a space.
 - b. **NOTE:** Your program should work with any file of any number of lines.
2. A menu will be displayed on loop to the user (meaning after a user completes a selection, the menu will be displayed again). Menu options should be:
 - a. **Add item:**
 - i. A list of available items will be displayed to the user.
 - ii. A user will be asked for the name of the product they want to add to their cart.
 - iii. If the product database contains the requested item, add 1 item to the cart and increase the cart total by the price of the item. Print the new number of items in the cart and the new total price of their cart.
 - iv. If the item is not found in the product database, print an error message to the user and go back to the menu.
 - v. **NOTE:** Your program does not have to keep track of which items the user adds to their cart, only the number of items added and the running total price of the cart.
 - b. **View cart**
 - i. The current number of items as well as the total price of the cart will be displayed to the user.
 - c. **Clear cart**
 - i. Set the number of items in the cart to 0 and set the price of the cart to \$0.00.
 - ii. Print the new cart details to the user.
 - d. **Check out**
 - i. The current number of items as well as the total price of the cart will be displayed to the user.
 - ii. The user will have the option of paying in full, in 6 month payments, or in 12 month payments
 1. If the user decides to pay in full, the entire total will be due at checkout.
 2. If the user decides to pay in 6 month installments, 1% interest will be added to the total. 1/6th of that total will be due at checkout.
 3. If the user decided to pay in 12 month installments, 2% interest will be added to the total. 1/12th of that total will be due at checkout.
 - iii. For simplicity, the user will be asked to pay with a gift card. The user will enter the total amount they have on their gift card.
 1. If the gift card amount is not enough to cover today's total, display an error message to the user. The cart will remain unchanged.
 2. Otherwise, print the remaining gift card balance to the user and empty the cart.
 - e. **Exit**
 - i. A goodbye message will be displayed to the user and the program will quit

Terminal output example, adding to cart

Welcome to Mejiaazon

Choose one of the options below (1-5):

1. Add item
2. View cart
3. Clear cart
4. Check out
5. Exit

1

Here are available products (from file):

iPad 329.00
Xbox_SeriesX 399.00
PS5 499.00
MacBook_Pro 1299.99
MacBook_Air 999.99
Alexa_Speaker 79.99
Air_Fryer 129.00
Surface_ProX 1299.99
Nintendo_Switch 299.00
FIFA21 39.99

Type the name of the product you want

Air_Fryer

You're adding more?!?! Current total: \$129.0

Number of items: 1

Choose one of the options below (1-5):

1. Add item
2. View cart
3. Clear cart
4. Check out
5. Exit

Terminal Output, view cart (3 items have been added to cart)

Choose one of the options below (1-5):

1. Add item
2. View cart
3. Clear cart
4. Check out
5. Exit

2

You're spending A LOT! jk current total: \$957.0 Items: 3

Choose one of the options below (1-5):

1. Add item

Red text = user input
Green text = values from variables
Blue text = info from file
Black = terminal output

2. View cart
3. Clear cart
4. Check out
5. Exit

Terminal Output, clear cart

Choose one of the options below (1-5):

1. Add item
2. View cart
3. Clear cart
4. Check out
5. Exit

3

Total is now: \$0.0 Items: 0

Choose one of the options below (1-5):

1. Add item
2. View cart
3. Clear cart
4. Check out
5. Exit

Terminal Output, check out and pay in full (3 items have been added to cart)

Choose one of the options below (1-5):

1. Add item
2. View cart
3. Clear cart
4. Check out
5. Exit

4

You now have 3 options to check out:

1. 6 months of payments with 1% interest
2. 12 months of payments with 2% interest
3. Pay in full

3

Today you owe: \$957.0

Enter gift card amount

1000

Thank you for shopping with Mejiazon! You're now broke!

Remaining gift card balance: \$43.0

Byeeee!

Terminal Output, check out and pay in 12 months (3 items have been added to cart)

Choose one of the options below (1-5):

1. Add item
2. View cart
3. Clear cart
4. Check out
5. Exit

4

You now have 3 options to check out:

1. 6 months of payments with 1% interest
2. 12 months of payments with 2% interest
3. Pay in full

2

You will pay: \$79.75 every month for 12m. Interest was: \$19.14

Today you owe: \$79.75

Enter gift card amount

50

Your gift card doesn't have enough money!

You now have 3 options to check out:

1. 6 months of payments with 1% interest
2. 12 months of payments with 2% interest
3. Pay in full

Terminal Output, exit program

Welcome to Mejiazon

Choose one of the options below (1-5):

1. Add item
2. View cart
3. Clear cart
4. Check out
5. Exit

5

Cart abandoned. Goodbye!

Rubric

- 15% - Pseudocode
- 15% - Compiles, runs, and contains required functionality
- 10% - Appropriate use of input/output operations (in Java)
- 15% - Appropriate use of iterations (for-loops, while-loops)
- 20% - Appropriate use of conditional statements (if-elseif-else)
- 10% - Appropriate documentation (code comments)
- 10% - Appropriate notation and indentation (including good variable names)
- 5% - Student answers questions during demo

Tips

- > Start early!
- > Plan to work 3 to 5 additional hours outside the lab to complete this assignment.
- > Ask clarifying questions to the instruction team if something is not clear.
- > Plan to submit at least 1 hr. before the deadline to deal with potential Blackboard bugs.
- > Have fun and keep it simple!

You got this!

