

Coursework Report – 5COSC019C Object Oriented Programming

Student Name: Ashfaq Farleen

Student ID: w1999414/20221656

Have you submitted the video with the demonstration of your system?

☒ Yes

☐ No

If the video has been submitted specify where:

☐ Blackboard

☒ On the cloud (file shared from Google drive, or OneDrive or Dropbox, etc), or YouTube. [Video Link](#)

Phase 1 – Design and class implementation

Task	Did you attempt the task?	Student's comments (To which extent you implemented the task? Have you encountered any problems or issue?)
Design a UML Use Case Diagram of your system (submitted in a separate file).	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes. I carefully designed a UML Use Case Diagram to represent the interactions and relationships within the system, highlighting key use cases.
Design a UML Class Diagram of your system (submitted in a separate file).	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes. I created a detailed UML Class Diagram, providing a comprehensive overview of the class structure and their associations.
Implementation Class Product	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes. I successfully implemented the Product class, ensuring it encapsulates relevant attributes and behaviours related to products.
Implementation Class Electronics	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes. The Electronics class has been implemented effectively, incorporating specific properties and methods tailored to electronic products.
Implementation Class Clothing	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes. I successfully implemented the Clothing class, capturing essential attributes and functionalities specific to clothing products.
Implementation Class User	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes. The User class has been implemented, covering essential user-related details and operations.
Implementation Class Shopping Cart	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes. I implemented the Shopping Cart class, managing the addition and removal of products, as well as calculating the total price.
Implementation Interface WestminsterShoppingManager	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes. I implemented the WestminsterShoppingManager interface, ensuring the necessary methods are defined for managing the shopping system.

Phase 2 – Console menu implementation

Task	Did you attempt the task?	Student's comments (To which extent you implemented the task? Have you encountered any problems or issue?)
Add a product in the system with all the relative information (max 50 doctors)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes. I implemented the functionality to add a product, prompting the user for relevant information and adding it to the system.
Delete a product from the system by selecting the product ID. Display a message to confirm it has been removed and the total number of products in the system.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes. I successfully implemented the deletion of a product by selecting its ID, displaying a confirmation message, and updating the total product count.
Print on the screen the list of the products in the system with all the relative information. The list should be ordered alphabetically.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes. I implemented the display of the product list in alphabetical order using the product name, providing a clear overview of the available products.
Save in a file entered by the user so far. The user should be able to load back the information running a new instance of the application.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes. Users can now save the entered information to a file and load it back in a new instance, ensuring data persistence.

Phase 3 – GUI Implementation

Task	Did you attempt the task?	Student's comments (To which extent you implemented the task? Have you encountered any problems or issue?)
The user can select the category through the drop down menu	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes. The GUI includes a dropdown menu for users to select product categories, enhancing the user experience.
The GUI is open and a list of products with the information as per specification has been displayed	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes. The GUI effectively displays a list of products with detailed information, meeting the specified requirements.
Items with low availability are highlighted in red	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes. I implemented the highlighting of items with low availability successfully as per the given specifications.
The user can select a product and all the details are displayed as per specification in the below panel	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes. Users can select a product, and the GUI correctly displays all relevant details in a dedicated panel.
The user can add products to the shopping cart and all the information are displayed in a separate frame	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes. The GUI allows users to add products to the shopping cart, and the information is accurately reflected in a separate frame.
The final price is displayed correctly	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes. The final price is displayed correctly, ensuring transparency for users.
The discounts, if applicable, are displayed as per specification and the final price updated accordingly	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes. Discounts, if applicable, are displayed as per specifications, and the final price is updated accordingly.

Phase 4 – Testing and system validation

Task	Did you attempt the task?	Student's comments (To which extent you implemented the task? Have you encountered any problems or issue?)
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Test plan. (Submitted in a separate file).	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes. I created a comprehensive test plan covering various scenarios for both console and GUI applications.
Implementation of an automated unit test for each scenario in the console menu.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Yes. I implemented automated unit tests for each scenario in the console menu, contributing to the overall reliability of the system.
Error Handling across all the code, input validation and code quality.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes. I implemented robust error handling, input validation, and maintained high code quality throughout the project.