# Coursework Report – 5COSC019C Object Oriented Programming

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| Have you submitted the video with the demonstration of your system? | Yes | No |

If the video has been submitted specify where:

Blackboard

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Description automatically generated On the cloud (file shared from Google drive, or OneDrive or DropBox, etc), or YouTube. **Copy here the link:**

[**https://drive.google.com/file/d/1oD7EeeoqVBKWR-dClkUXXnAhMIhPxfyx/view?usp=sharing**](https://drive.google.com/file/d/1oD7EeeoqVBKWR-dClkUXXnAhMIhPxfyx/view?usp=sharing)

**Phase 1 – Design and class implementation**

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| **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). | A green square with a white tick mark  Description automatically generated Yes  No | Successfully designed a Use Case diagrams with all the relevance actors and all components |
| Design a UML Class Diagram of your system (submitted in a separate file). | A green square with a white tick mark  Description automatically generated Yes  No | Successfully designed a Class diagram of the system with all the classes with methods and variables |
| Implementation Class Product | A green square with a white tick mark  Description automatically generated Yes  No | Successfully implement the Product Class which is an abstract class with relevant attributes and get set methods. |
| Implementation Class Electronics | A green square with a white tick mark  Description automatically generated Yes  No | Successfully implemented class Electronics which is a sub class of Product class with required attributes, Constructors and get set methods. |
| Implementation Class Clothing | A green square with a white tick mark  Description automatically generated Yes  No | Successfully implemented class Clothing which is a sub class of Product class with required attributes, Constructors and get set methods. |
| Implementation Class User | A green square with a white tick mark  Description automatically generated Yes  No | Successfully implemented class User which holds information about usernames and passwords with relevant get set methods. |
| Implementation Class Shopping Cart | A green square with a white tick mark  Description automatically generated Yes  No | Successfully implemented class Shopping Cart which holds information about the list of products and relevant methods to add and remove products and calculate total cost. |
| Implementation Interface WestminsterShoppingManager | A green square with a white tick mark  Description automatically generated Yes  No | Successfully implemented the interface ShoppingManager from WestminsterShoppingManager Class. |

**Phase 2 – Console menu implementation**

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| **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) | A green square with a white tick mark  Description automatically generated Yes  No | A product can be added with all the relative information to the system and maximum amount is set to 50. |
| 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. | A green square with a white tick mark  Description automatically generated Yes  No | A Product can be deleted by entering the product ID and a confirmation message is displayed with the available product number. |
| Print on the screen the list of the products in the system with all the relative information. The list should be ordered alphabetically. | A green square with a white tick mark  Description automatically generated Yes  No | List of the products in the system is printed with the relative information and ordered alphabetically regarding the product ID. |
| 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. | A green square with a white tick mark  Description automatically generated Yes  No | All the added products can be saved to a file, and it will automatically be loaded to the system when running a new instance. |

**Phase 3 – GUI Implementation**

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| **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 | A green square with a white tick mark  Description automatically generated Yes  No | User Will be able to select product category by going through the drop-down menu. |
| The GUI is open and a list of products with the information as per specification has been displayed | A green square with a white tick mark  Description automatically generated Yes  No | When GUI is open all the added products is displayed in table with the required fields |
| Items with low availability are highlighted in red | A green square with a white tick mark  Description automatically generated Yes  No | Attempted to highlight the particular row but end up setting red to the whole table if a product has lesser availability, |
| The user can select a product and all the details are displayed as per specification in the below panel | A green square with a white tick mark  Description automatically generated Yes  No | When user Selects an item from the product table the information required is displayed below the table accordingly. |
| The user can add products to the shopping cart and all the information are displayed in a separate frame | A green square with a white tick mark  Description automatically generated Yes  No | After selecting user can click add to shopping button to add those to the cart and by clicking shopping cart button a new frame is opened with the relevant information. |
| The final price is displayed correctly | A green square with a white tick mark  Description automatically generated Yes  No | In the shopping cart frame, all the prices are displayed accurately with relevant to the number of items. |
| The discounts, if applicable, are displayed as per specification and the final price updated accordingly | A green square with a white tick mark  Description automatically generated Yes  No | For a first purchase a 10% discount and for purchase of 3 items in the same category 20% discount is applied in the purchase. |

**Phase 4 – Testing and system validation.**

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| **Task** | **Did you attempt the task?** | **Student’s comments** (To which extent you implemented the task? Have you encountered any problems or issue?) |
| Test plan. (Submitted in a separate file). | A green square with a white tick mark  Description automatically generated Yes  No |  |
| Implementation of an automated unit test for each scenario in the console menu. | Yes  No |  |
| Error Handling across all the code, input validation and code quality. | A green square with a white tick mark  Description automatically generated Yes  No | Input miss match exceptions is used to prevent crashing the program when user enters an irrelevant input. |