Group Assignment

Course Work

Learning outcomes covered

LO1: Explain the fundamentals of Object-Oriented Programming concepts

LO2: Design Object-Oriented based applications

LO3: Develop Object-Oriented applications

Scenario and the Task

"City Bookshop" is one of the new bookshop located in the city. The company planned to implement an application in order to automate transaction process

User levels and functionalities are follows

Cashier

1. View all the book details
2. Search for stock details of different books
3. Search book details based on category, Name, Price etc

Manager: (can perform all the functionality as cashier plus the following)

1. Create a new account (can have different account types)
2. Add new books and category of books

You are required to apply OOP concepts for the above scenario. Data need to be saved and retrieved from a File. Frontend can be implemented by using JSwing or Javafx.

Part A: Report

Task 1: Develop a suitable system for the above scenario based on the design. Required to use Object Oriented concepts (Object, Class, Abstraction, Inheritance, Encapsulation and Polymorphism) for the development. Document the main functionalities and Object Oriented concepts applied with proper explanation and source code. **(Marks 40) (LO1, LO3)**

Task 2: Provide a user manual for the developed solution **(Marks 20) (LO3)**

Guidelines for the report format

Paper A4

Margins 1.5" left, 1" right, top and bottom

Page numbers – bottom, right

Line spacing 1.5

Font

Headings 14pt, Bold

Normal 12pt

Font face- Times New Roman

Part B: Demonstration

Task 3: System demonstration. System should work according to the expected functionalities. Should be able to demonstrate Object Oriented concepts (Object, Class, Abstraction, Inheritance, Encapsulation, and Polymorphism) applied to the given scenario. **(Marks 40) (LO1, LO3)//60**

Assessment Criteria

This submission will be assessed as follows	Total marks Allocated	Marks obtained by the student for the answer provided
Task 1:	Out of 40	
POOR • No proper standard coding • Insufficient code evidence with no or poor explanation • Poor use of Object Oriented concepts no or poor explanation • Poor implementation of the design	0-16	
SATISFACTORY • Proper standard coding • Sufficient code evidence with proper explanation • Basic use of Object Oriented concepts (at least 3 concepts) with basic explanation • Proper implementation of the design with minor mistakes	17-24	
GOOD • Proper use of Object Oriented concepts (at least 4 concepts) with proper explanation • Proper implementation of the design with no mistakes	25-30	
EXCELLENT	31-40	

Excellent use of Object Oriented concepts (all the concepts) with proper explanation		
Task 2:	Out of 20	
POOR • Poor structure no clear explanation and screenshots • Content is not specific and sufficient	0-8	
SATISFACTORY • Has provide basic explanation with screenshots • Content is specific and sufficient	9-12	
GOOD • Has provide average explanation with screenshots	13-16	
EXCELLENT • Excellent, clear and descriptive explanation with screenshots	17-20	
Part B: Task 3:	Out of 40	
POOR • System with syntax and logical errors • Poor or not able to explain and demonstrate implementation of the design Poor or not able to explain and demonstrate Object oriented concepts used in the system	0-16	
SATISFACTORY • Error free system • Partially able explain, demonstrate and justify the implementation of the design Partially able to explain and demonstrate Object oriented concepts used in the system	17-24	

GOOD • Able to explain, demonstrate and justify the implementation of the design • Able to explain and demonstrate Object oriented concepts used in the system	25-30	
EXCELLENT Has demonstrate excellent level of understanding of Object Oriented concepts	31-40	
Total marks	**100**	