**Texas College of Management & IT**

**Bachelor of Information Technology (BIT**)

**Project Title:** Fun in Programming with Java and OOP

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**Submitted To:**

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Course: Java Programming

Date of Submission :2025/07/19

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**Introduction:**

Briefly introduce the important of Fullter for mobile development and java for backend logic. Mention the objective of combining both for cross-platform app development and logic modeling. Flutter is powerful open-source Ul toolkit by Google used to build natively mobile, web,and disktop applications from single codebase.It enables fast development with expressive and flexible UI designs. On ths other hand java is a backend programming language known for its portability and object-oriented capabilities.

**Objects:**

* To improves foundation of java programming .
* Help in buliding real world project.
* To represent real life entities in code like Car, Student,Employee.
* To Allow easy reuse of code through object instances
* Make programs easier to understand and maintain.

Task 1: OOP implementation -Banking Systems

A computer screen shot of a program

AI-generated content may be incorrect.



**Output:**

A computer screen with white text

AI-generated content may be incorrect.

Task 2: inheritance & Polymorphism -Employee Management

A screenshot of a computer program

AI-generated content may be incorrect.

A screenshot of a computer program

AI-generated content may be incorrect.

**Output:**

A screenshot of a computer program

AI-generated content may be incorrect.

**Task 3: String and Exception Handling -Student Grading**

**A screenshot of a computer program

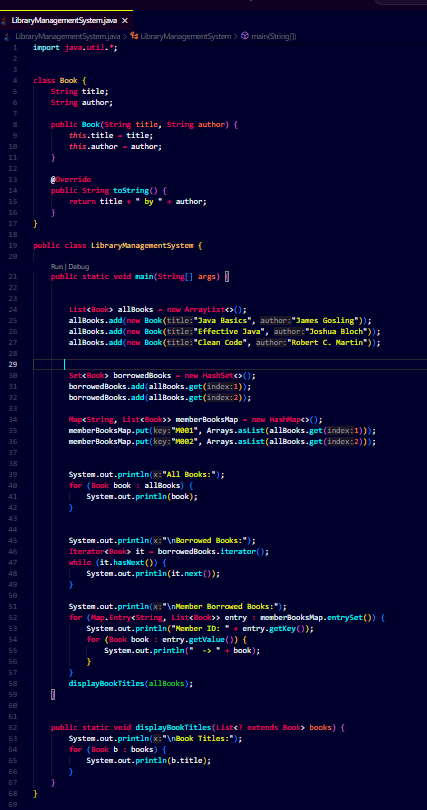
AI-generated content may be incorrect.**

**Output:**

A computer screen shot of text

AI-generated content may be incorrect.

**Task 4: Java Collections -Library Management System**



**Output:**

A computer screen shot of a computer code

AI-generated content may be incorrect.

**Task 5: Design Patterns – Online food Delivery App**

A screen shot of a computer program

AI-generated content may be incorrect.

A screen shot of a computer program

AI-generated content may be incorrect.

**Output:**

A computer screen shot of a program

AI-generated content may be incorrect.

**Class Diagram**

Database

-Instances

-Database ()

+getInstances

+query

**Benefits**

-Adds flexibility to user role creation.

-Easy to extend (e.g. add Admin, Restaurant Owner)

**Limitations**

-Requires code changes when new roles are added.

-Hard to manage if many subclasses are needed.

**Conclusion**

This project highlights the power of java Object-Oriented Programming in modeling real world systems. Each task demonstrates core concepts like encapsulation, inheritance, polymorphism, collection, and design patterns in practical scenarios. These concepts strengthen logical thinking, improve projects structure.

**Reference:**

This project is based on personal analysis and understanding of real-world platform challenges related to trust. For technical concepts and implementation resources,

-W3School

-Lecture notes and class assignments

-Personal experiment and testing environment.

-YouTube video-codewithmosh, codewithharry Apna College etc.



**Declaration of Originality**

I hereby declare that this assignment is my original hard work, and I have referenced all sources as required. I understand that failure to adhere to academic integrity will in disciplinary action.

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Signature:

Date :2025/07/19