Titan Payment System

Project Description:

Payment Platform: The Payment platform helps in creating a hassle-free environment to pay bills, sort purchases, and store purchase information. Users can retrieve the data like personal details, purchase information between dates, amount to be paid by the end of the billing cycle, retrieve payment history, etc., through the selected options provided.

Tech Used:

1. Object-Oriented programming JAVA (Apache maven)
2. Lombok
3. Google GSON library for JSON parsing and serialization

NOTE:

1. The project is built using Maven. Please make sure you have Maven installed on your system.
2. The project is built using Java 8. Please make sure you have Java 8 installed on your system.
3. The project is built using Lombok. Please make sure you have Lombok installed on your system.
4. The project is built using Google GSON library. Please make sure you have the Google GSON library installed on your system.
5. Always logout or exit the application before closing the terminal.
6. The data is read and written from the file "data.json" in the project directory. Please make sure you have the file in the project directory.
7. The data is read and written from the file "data.json" in the project directory, only after the user has logged out or exited the application.

How to run the project:

1. Clone the project from the repository.
2. Open the project in an IDE (preferably IntelliJ IDEA).
3. Run the project from the IDE.
4. The project will run and the user will be prompted to enter the username and password.
5. The user can enter the username and password from the file "Users.json" in the project directory.
6. The user can also create a new user by entering the username and password.
7. The user can then select the options from the menu provided.

8. The user can logout or exit the application at any point of time.
9. The user can then login again with the same or different username and password.
10. The user can then select the options after login from the menu provided.
11. The user can query using the options provided in the menu.
12. The user can download his purchase and payment history in the form of a CSV file.

Time & Space Complexities of all the files used:

Class	Time Complexity	Space Complexity
Card.java (Enum)	O(1)	O(1)
PrintItems (interface)	O(n)	O(n)
Utils.java	O(n)	O(n)
User.java	O(n)	O(n)
Purchase.java	O(n)	O(n)
Payment.java	O(n)	O(n)
Main.java	O(n^2)	O(n)