SkillUp Tracker – Console-Based Learning & Assessment Platform:

Overview

SkillUp Tracker is a Java and MySQL-based learning platform designed for students to set learning goals, take quizzes, and track their progress. Unlike simple to-do or quiz apps, it provides **personalized topic suggestions based on weak areas** and offers real-time performance analytics for both learners and admins. The project follows **Object-Oriented Programming (OOP) principles** for maintainable code and uses **SQL** for structured data management and adaptive tracking.

Key Features

- **Learner Panel**
    - Set learning goals (e.g., DSA, SQL, Web Development).
    - Attempt quizzes (MCQs).
    - Receive instant feedback and progress reports.
    - Track personal performance history stored in the database.
- **Admin Panel**
    - Manage users and topics.
    - Add, update, or remove quiz questions.
    - View learner performance analytics using SQL queries.

Why It's Unique

- Tracks **individual learning curves** rather than just scores.
- Suggests new topics dynamically based on weak areas.
- **Uses OOP concepts** (classes, inheritance, encapsulation, polymorphism).
- **SQL-backed real-time analytics** for learners and admins.
- Scalable for multiple learners and customizable topics.

Tech Stack

- **Frontend:** Java Console Application (extendable to React/HTML/CSS/JS)
- **Backend:** Java (OOP-based design)
- **Database:** MySQL (User management, topics, questions, quiz history)

Database Design

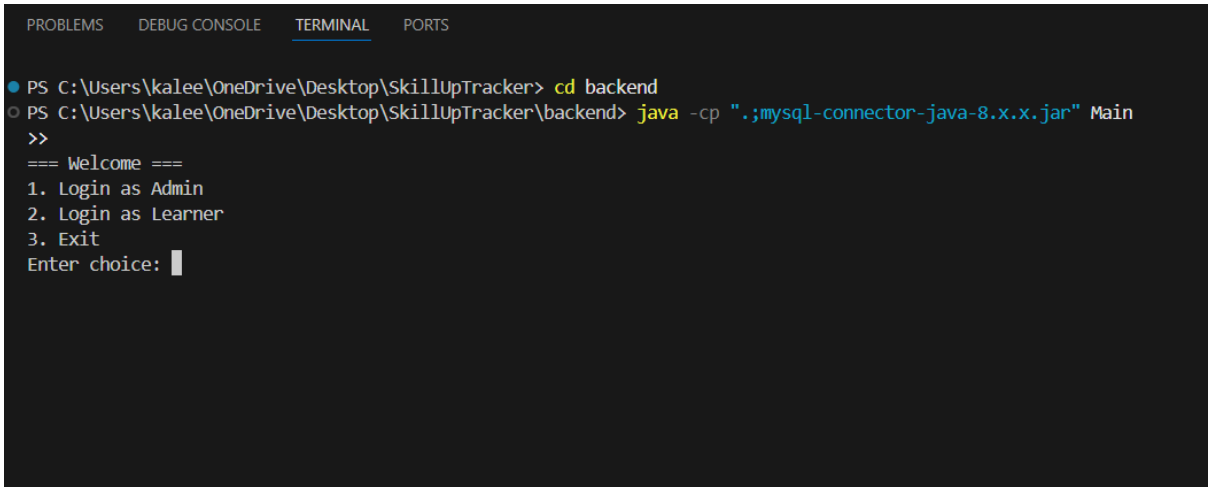
- **Users** → Stores learner/admin information.
- **Topics** → Defines subject areas.
- **Questions** → Contains quiz questions with options and correct answers.
- **QuizHistory** → Tracks learner scores and timestamps.

Learning Outcomes

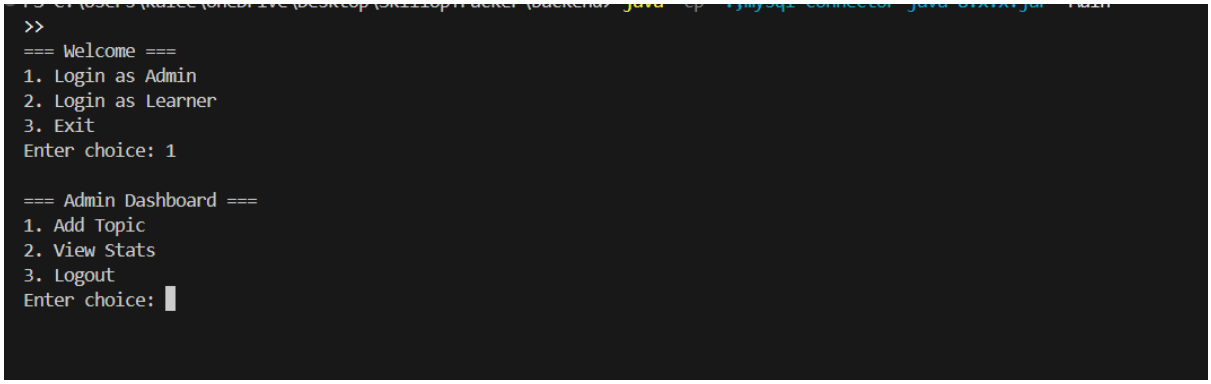
- Strengthened knowledge in **Java OOP concepts** (class design, modularity).
- Hands-on experience with **SQL database integration** in Java.
- Developed a **scalable project** beyond a simple quiz app.
- Showcased problem-solving by connecting learners' **weak areas to adaptive learning paths**.

Screenshots of app functions:

>>> "Login & User Role Selection" – for the first screen where the user chooses Admin or Learner.



>>> **"Admin Dashboard – Manage Topics & Questions"** – for screenshots showing the admin adding topics/questions.



>>> **"Learner Dashboard – Attempt Quiz"** – for when a learner starts a quiz.

>>> **"Quiz Attempt & Instant Feedback"** – for screenshots showing questions and answers.

>>> **"Performance Analytics & Progress Tracking"** – for learner performance history or admin reports.

```
 Quiz finished! You scored: 2
Score saved to your history.

=== Learner Dashboard ===
1. Take Quiz
2. View History
3. Logout
Enter choice: 2

 Your Quiz History:
Topic: Stack | Score: 2
Topic: Stack | Score: 2
Topic: Stack | Score: 2
Topic: Queue | Score: 1
Topic: Queue | Score: 0
```

Final Thoughts:

The main objective of this project is to implement my **Java programming, Object-Oriented Programming (OOP), and database (MySQL) knowledge in real-time** through a practical application. Instead of building a simple "to-do" or static quiz app, I chose to design **SkillUp Tracker** as a console-based system to ensure my focus remained on the **core logic, OOP principles, and SQL integration** without being distracted by complex front-end development at this stage.

Creating it as a **console-based application** helped me:

- Strengthen my **problem-solving** and **modular programming** skills.
- Apply **OOP concepts** like inheritance, encapsulation, and polymorphism in a real-world context.
- Work with **MySQL** for data storage, retrieval, and analytics in a structured way.
- Build a **scalable system** that can later be extended to a full-fledged web or mobile application.

What makes this project stand out is that it goes beyond just quizzes: it **tracks learning curves, provides adaptive feedback, and supports admin-level analytics.** This demonstrates not only technical implementation but also an understanding of **how technology can be used to enhance learning and assessment.**

In short, this project is a **strong bridge between my academic knowledge and real-world application development**, laying the foundation for building more advanced, user-friendly applications in the future.