**Hackathon Website Application**

This repository contains the **Hackathon Website** project, a web application that combines **data analysis** and a **basic streaming platform**. The project leverages datasets from **IMDB** (movies) and **Amazon Best Sellers** to provide insights and features such as personalized recommendations, a shop, and a rewards system.

**Overview**

The Hackathon Website was developed in **6 days** as part of the **Hackathon 7.1 Taltal**. It is designed to showcase the integration of data analysis and a streaming platform. It includes the following features:

* **Data Analysis**:
  + Insights derived from IMDB and Amazon datasets, such as movie ratings, popularity trends, and genre statistics.
  + Visualizations and statistical analyses to understand user preferences and trends in the entertainment industry.
* **Streaming Platform**:
  + A basic streaming platform with a **home page** featuring personalized movie recommendations based on user preferences.
  + A **shop** where users can redeem movies and Amazon products using points.
  + A **rewards system** where users earn points for watching ads or engaging with the platform.
  + A **battle pass** system that unlocks additional rewards and features as users progress.
  + **Registration and Login System** to manage user accounts securely.

**Technologies Used**

The project leverages the following technologies:

* **Java**: Backend development for the streaming platform.
* **Spring Boot**: Framework for building production-ready applications.
* **MySQL**: Relational database for storing user data, movie information, and rewards.
* **Python**: Data analysis and visualization using libraries like **Pandas**, **NumPy**, **Matplotlib**, and **Seaborn**.
* **Maven**: Build automation tool for managing dependencies and project lifecycle.
* **Visual Studio Code (VS Code)**: Recommended IDE for development.

**Prerequisites**

Ensure the following software is installed and properly configured:

1. **Java Development Kit (JDK)**:
   * Version: **23.1.0**
   * Verify installation:
     + Run java --version in the terminal to check the version.
     + Run %JAVA\_HOME% in the terminal to ensure it points to the JDK directory (e.g., C:\Program Files\Java\jdk-23).
2. **MySQL**:
   * Install MySQL from the [official website](vscode-file://vscode-app/c:/Users/gabri/AppData/Local/Programs/Microsoft%20VS%20Code/resources/app/out/vs/code/electron-sandbox/workbench/workbench.html" \o ").
   * Add MySQL to the system's environment variables.
3. **Python**:
   * Install Python (version 3.8 or higher) and the required libraries:

pip install pandas numpy matplotlib seaborn

1. **Visual Studio Code (VS Code)**:
   * Required extensions:
     + **Extension Pack for Java**
     + **Spring Boot Extension Pack**
     + **MySQL**

**Project Setup**

Follow these steps to set up and run the project:

**1. Clone the Repository**

Clone this repository to your local environment:

git clone <REPOSITORY\_URL>

**2. Install Required Software**

Ensure all prerequisites are installed and configured as described in the **Prerequisites** section.

**3. Configure the Database**

1. Open the **MySQL Command Line** and create the database:

CREATE DATABASE hackatondb;

1. In **VS Code**, connect to the database using the **MySQL** extension:
   * Username: root
   * Password: 1234

**4. Run the Data Analysis**

Navigate to the [DataAnalysis](vscode-file://vscode-app/c:/Users/gabri/AppData/Local/Programs/Microsoft%20VS%20Code/resources/app/out/vs/code/electron-sandbox/workbench/workbench.html" \o ") folder and execute the Python scripts:

cd DataAnalysis

python DataAnalysis.py

python AmazonAnalysis.py

These scripts perform statistical analysis and generate visualizations based on the IMDB and Amazon datasets. Ensure the required Python libraries are installed before running the scripts.

**5. Build and Run the Application**

1. Open the terminal in VS Code and navigate to the project root directory.
2. Build the project using Maven:

mvn clean install

1. Run the application:

mvn spring-boot:run

1. The application will be available at: [http://localhost:8080/](vscode-file://vscode-app/c:/Users/gabri/AppData/Local/Programs/Microsoft%20VS%20Code/resources/app/out/vs/code/electron-sandbox/workbench/workbench.html).

**Features**

**Data Analysis**

* **Movie Insights**: Analyze movie ratings, popularity trends, and genre statistics.
* **Amazon Products**: Explore trends in best-selling products.
* **Visualizations**: Generate charts and graphs to understand user preferences.

**Streaming Platform**

* **Home Page**: Displays personalized movie recommendations based on user preferences.
* **Shop**: Users can redeem movies and Amazon products using points earned on the platform.
* **Rewards System**: Earn points by watching ads or engaging with the platform.
* **Battle Pass**: Unlock additional rewards and features as you progress.
* **Registration and Login System**:
  + Users can create accounts with secure credentials.
  + Login functionality ensures personalized experiences and secure access to features.

**Project Structure**

* **src/main/java/com/hackaton/website**:
  + Contains the main class WebsiteApplication.java, which initializes the application.
* **DataAnalysis/DataAnalysis.py**:
  + Python script for performing data analysis and generating visualizations.

**Testing the Application**

1. Access the application at [http://localhost:8080/](vscode-file://vscode-app/c:/Users/gabri/AppData/Local/Programs/Microsoft%20VS%20Code/resources/app/out/vs/code/electron-sandbox/workbench/workbench.html).
2. Verify that all features, including the shop, rewards system, and battle pass, are functioning as expected.
3. Test the **registration and login system**:
   * Create a new user account.
   * Log in with the created credentials.
   * Verify that personalized recommendations and rewards are displayed.

**License**

This project is licensed under the **MIT License**.