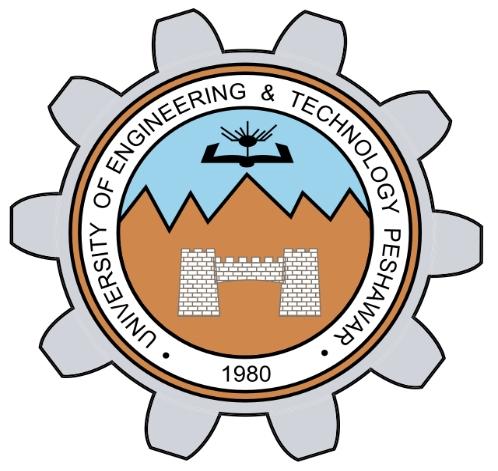
**UNIVERSITY OF ENGINEERING AND TECHNOLOGY PESHAWAR**



**SUBMITTED BY :** Waqas Khan

**SUBMITTED TO:** SIR ADEEL ALI SHAH

**SECTION:** “A”

**REG NO #** 24PWBCS1141

**Lab-task NO:** 08

**DEPARTMENT OF COMPUTER SCIENCE AND TECHNOLOGY PESHAWAR**

**Movie Recommendation System Using Java Built-In Features**

**Objective**: Design a movie recommendation system utilizing advanced built-in Java classes like HashMap, TreeMap, ArrayList, and Java Streams. The task will require students to research these classes and combine them with their knowledge of inheritance, polymorphism, encapsulation, and collections.

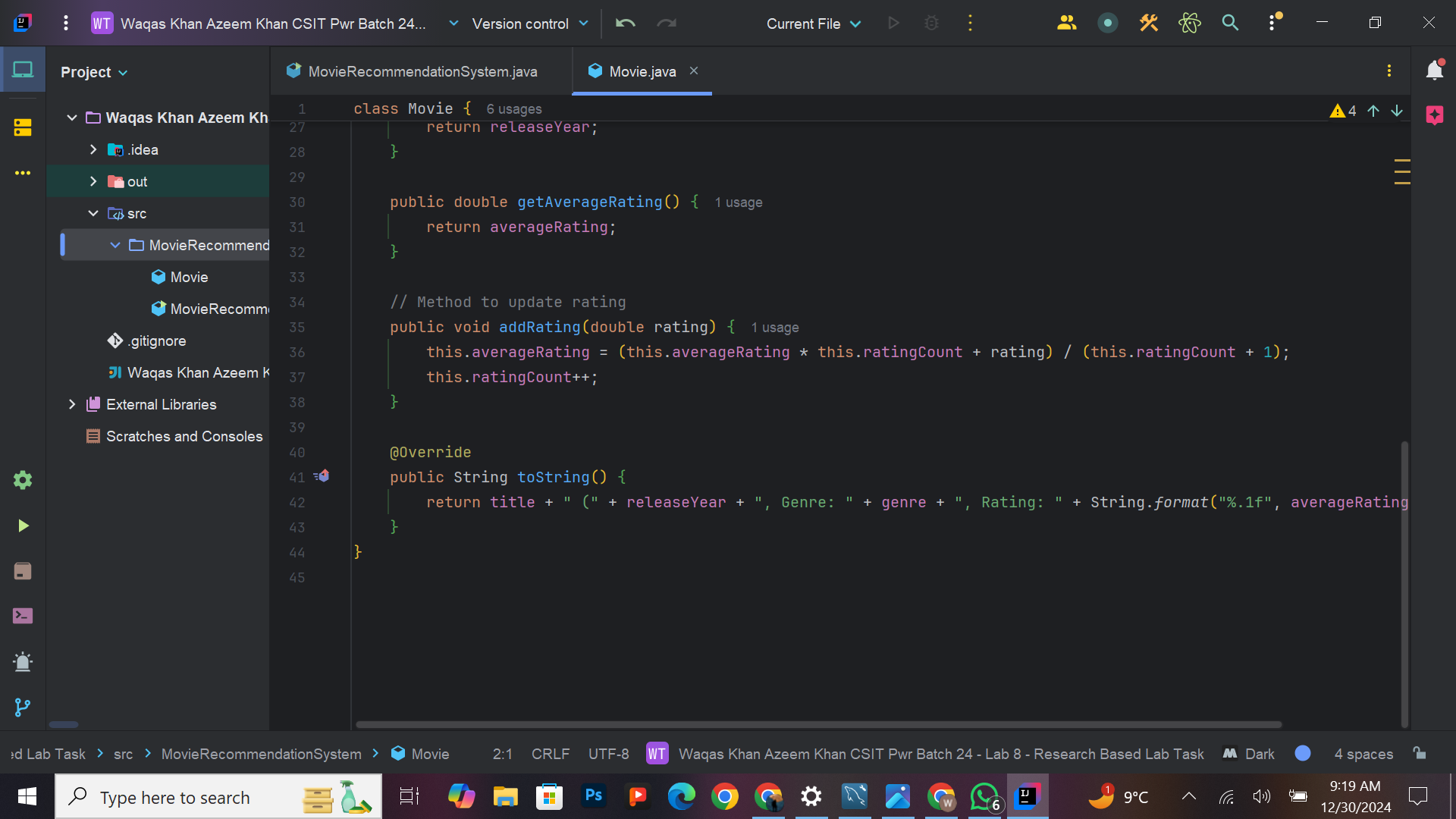
**Task Description**:  
Create a **Movie Recommendation System** that provides the following functionalities:

1. **Add Movies**: Add movies with attributes like title, genre, release year, and average rating.
2. **Rate Movies**: Allow users to rate movies, updating the movie's average rating.
3. **Display Movies by Genre**: View a list of movies filtered by genre.
4. **Sort Movies by Rating**: Display all movies sorted in descending order of their ratings.
5. **Search Movies**: Search for movies by title using Java Streams for filtering results.

**Hints for Students**:

* Use a HashMap<String, Movie> to store movies, where the key is the movie title and the value is a Movie object.
* Use TreeMap to maintain a sorted view of movies by rating.
* Use Java Streams to implement filtering and sorting.
* Implement encapsulation for the Movie class to ensure controlled access to its attributes.
* Create methods like addMovie, rateMovie, and displayMoviesByGenre to adhere to object-oriented design principles.

**Here are the code screenshorts for the given task**

****

