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Development Environments - Extraordinary Exam - Part II - 8 Points

2024-2025

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Full name:……

Group:……..

Practical exercise (8 points)

> - If something is not specified use your own criteria.
> - You can add as many additional methods and classes as you wish
> - (**-0.5 points**) All classes' **attributes** must be **private**.
> - (**-0.5 points**) Use method **toString()** whenever it's possible.
> - (**-0.5 point**s) Sorting should be done using **Collections.sort()** method
> - (**-0.5 points**) **Code duplication** should be avoided
> - (**-0.5 points**) You should write **clean code**: meaningful names and short functions.
> - (**-0.5 points**) User interaction should not produce unhandled **exceptions**.
> - (**-2 points**) The code you submit should **compile and run**, even if some features are missing.
> - (**-2 points**) The use of **Lambda functions** and **Streams** is forbidden.

The Academy Awards, also known as the Oscars, are awards for artistic and technical merit in the film industry. Given annually by the Academy of Motion Picture Arts and Sciences (AMPAS), the awards are an international recognition of excellence in cinematic achievements as assessed by the Academy's voting membership.

You are provided with a file containing data from The Academy Awards Database, recording past Academy Award **winners and nominees** between 1927 and 2024.

- There is a line for every nomination.
- The first line contains headers.
- Fields are separated by the tab char (`"\t"` in java) .
- Winners have `True` in the winners field.
- There are different films with the same name (`film` field), but with different `year_film`. So you need to check both (film name and film year) in order to distinguish different films.
- The nominations without film name are honorific nominations.

Next, a sample of the data provided is shown:

year_film	year_ceremony	ceremony	category	name	film	winner
2008	2009	81	DIRECTING	Danny Boyle	Slumdog Millionaire	True

Exercise: data analysis

> You must create an **IntelliJ project** called `AcademyAwards`. When you finish, you should submit the **whole project compressed in a zip file**.

You are requested to create a java program to process the awards data in order to obtain some statistics.

1. **(2p)** Create a class to store a nomination. Read all the nominations present in the provided file (each line is a nomination). Sort the nominations by `name`, and print the first 10 nominations on the screen.
2. **(2p)** Find and print the name of the most awarded actor or actress. Take into account these categories: ACTOR IN A LEADING ROLE, ACTOR IN A SUPPORTING ROLE, ACTRESS IN A LEADING ROLE, ACTRESS IN A SUPPORTING ROLE.
3. **(2p)** Write a file called `most_awarded_movies_all_time.txt` that contains a list of films **ordered by number of awards in descending order. Films with the same number of awards should be ordered by year in ascending order.** Remember that nominations without a film name should not be taken into account.

Take into account that some nominations are not related to a specific film (for instance the `HONORARY AWARD`), in this case the field `film` is empty in the provided file.

Each line must have the following data:

```
year_film, film, award_number
```

Example output data:

```
1959,Ben-Hur,11
1997,Titanic,11
2003,The Lord of the Rings: The Return of the King,11
1961,West Side Story,10
...
```

4. **(2p)** Write a file called `most_awarded_movies_by_year.txt` that contains a line with the most awarded movie of every year. The format sholud be identical to previous exercise file. The lines should be sorted by year.

Example output data:

```
...
2022,Everything Everywhere All at Once,7
2023,Oppenheimer,7
2024,Anora,5
```