🏅 Olympic Games Project (Projekt OS)

Purpose

The goal of this project is to apply the tools you've learned in Python, data processing, and data visualization to clean and filter useful information and create a dashboard.

You will retrieve historical Olympic Games data from Kaggle and work in groups of 3–4 people.

Tasks

Task 0 – Warm-up

You can complete this in Jupyter Notebook or one/more Python scripts. Tasks 1–2 must use Plotly Dash to build a dashboard. Task 3 is a group presentation, and Task 4 is an individual video. Each person must submit links to:

- The shared GitHub repository
- Your individual video
- Your deployed Dash app

Exploratory Data Analysis: Answer general questions using the dataset:

6. How many countries are included?
7. Which countries are included? (abbreviations are enough)
8. What sports are represented?
9. What types of medals exist?
10. Age statistics: mean, median, min, max, standard deviation
11. Explore the data further with your own questions

Visualizations:

8. Gender distribution chart
9. Top 10 countries with the most medals
10. Any other interesting plots

Task 1 – Country Statistics

Your group will be assigned a country. Start by anonymizing the athletes' names column using the SHA-256 hash function.

Then analyze how the country has performed in the Olympics over time. Visualize:

- Sports where the country has won the most medals
- Number of medals per Olympic Games
- Age distribution histogram

Create additional plots to highlight various aspects of the country's Olympic performance.

Task 2 – Sport Statistics

Choose 2–4 sports and create suitable graphs to visualize:

- Medal distribution between countries in those sports
- Age distribution in those sports

Add more plots to explore different aspects of the selected sports.

Task 3 – Presentation

Build a polished dashboard application that summarizes your findings from Tasks 1 and 2. Deploy the dashboard using Render.

Present as a group for about 10–15 minutes. Your presentation should explain:

- Your research questions
- How you approached answering them
- Why you chose specific charts/graphs
- Your dashboard design choices
- Suggested format: brief data analysis overview followed by dashboard walkthrough

Note: Everyone in the group must present.

Task 4 – Individual Video

Use OBS or Teams to record your screen and yourself explaining the code you worked on. This is an individual task. The video should be 5–10 minutes long.

Assessment Criteria

If you've used code from others or found snippets online, you must cite your sources. Add a comment next to the borrowed code.

Pass Requirements

- Completed Tasks 0–4 correctly
- Code includes relevant comments
- Well-chosen variable names
- Multiple meaningful Git commits
- Clear and understandable presentation

Distinction Requirements

In addition to the above:

- Efficient and easy-to-follow code
- Well-structured code using functions and/or OOP
- Scientifically sound explanation in your video
- User-friendly dashboard with well-motivated visualizations
- Visually consistent dashboard (shouldn’t look like multiple people worked on it)
- Thoughtful presentation with clear storytelling
