Data Analysis Lab
Degree in Information Technology
2º Semester 2022/2023

Worksheet 2

<u>**Goals:**</u>

- Introduction/Revision to Python

- Consolidate Python knowledge to be applied in data analysis

<u>Mini Recommendation Project</u>

A recommendation system allows guiding users using their profile. A profile is composed of information regarding the user's preferences and behaviour. It is intended to create an application that stores users' preferences regarding movie genres and creates recommendations.

1- **Data Structure**
The application has the following features:
   - The users are identified by an ID generated by the application.
   - Upon registration in the application, the user will have to rate their preference for the following genres on a scale of 1 to 5: Action, Adventure, Comedy, Drama, Horror, Mystery, and Romance.
   - The preferences are stored in a list where each position refers to a genre.
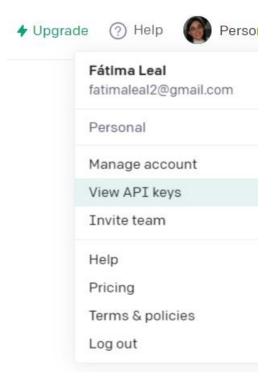   - The data will be structured in a dictionary as follows:

```
users = {1: [5,3,5,2,4,3,3], 2: [3,3,4,5,3,2,5],
3: [4,4,5,5,2,2,3], ...}
```

2- **Recommendation generation**
A recommendation system uses machine learning algorithms to intelligently generate suggestions to the user. For each user, the application will generate movie recommendations of 2021 of the most highly rated genre(s).
In this context, using the API from OpenAI follow the next steps:
   - Access to the openAI platform: https://platform.openai.com/
   - Do the registration.
   - Create an API key to interact with ChatGPT via API

- o In Examples menu search for chat and integrate in your application changing the prompt text for: Recommendation of drama movies of 2021.
- o Explore and integrate at least more on feature of this API such as Tweet classifier or Movie into Emoji

3- Interface
Implement a menu which allows:
- o Add users to the dict
- o Generate recommendations using OpenAI

4- Create a GitHub repository to store all projects and exercises of this course.

5- Demonstration
- o Prepare a small demonstration for your classmates.
- o Be creative and don't limit yourself to just following the guidelines provided in the worksheet.