Analysis Programming task

Your mission, if you choose to accept, is to understand Tando's performance. Based on bag files we would like you to provide insights into the robot's performance.

The task

Write a python script that takes all the bags in a specified folder and outputs the following:

1. Altitude statistics during flight during Airborne state.
2. IMU acceleration statistics during all of the different robot states.
3. Plot the robot's pitch and roll angles throughout the flight (Examine quaternion to Euler angles).

Assume -

1. The robot state is described in /indoor/status

The output should be a CSV file summarizing the statistics of all flights and a PDF file with all the requested plots.

Instructions

- Any library needed is OK.
- Please try to keep the code clean and modular. Use comments when needed.
- Each task should be in a different class, and be generic as possible.
- You are welcome to ask questions to clarify the assignment!
- Before you start the mission let us know how long you think it will take you to complete the assignment and when it will be ready.