HW ASSIGNMENT 7

Objective: Working with your team, provide a detailed description of your project, including some background, your central objective and the methodologies to be implemented (1 document per team). The requested format for the description depends on the course level.

ME 4340
The description should be formatted as a structured abstract (350 words limit) including the following sections:
- **Project title** (135 characters including letters and spaces)
- **Background and objectives**: brief description of the area of interest, justification of the need for a CFD model, formulation of the central objective (and hypothesis, if applicable) of the project
- **Methods**: based on what you have learnt so far from CFD analysis, provide some details on your modeling strategy in terms of geometry and mesh creation, flow model selection, and flow characterization (i.e., what quantities will you capture/compare?)
- **Potential significance**: describe how the collected results may help address the knowledge gap or research questions

ME 6340
The description of your project should be formatted as a “Specific Aims” page, which is a common document in a research proposal. This document has a one-page limit and should include the following information:
- **Project title** (135 characters including letters and spaces)
- **Background and objectives**: The core component of this section is the formulation of the central hypothesis and objective of the project. The hypothesis should be supported by a brief description of the area of interest, previous results (from your own experience on the topic or from the literature) and the description of the knowledge gap or underlying research questions. All the background information provided in this section should provide a solid justification for the use of the CFD tool. This section should also include a brief statement on the potential significance of the work (i.e., how will the collected results help address the knowledge gap or research questions?)
- **Specific Aims**: This section consists of the description of the methodology to be implemented to address the central objective, organized in different steps (e.g., Aim 1: geometry creation, Aim 2: CFD model setup, Aim 3: analysis of results). Each aim should be sufficiently detailed to let the reader assess the adequacy of the methodology.