

## Advanced Programming 2023/2024 – Coursework – Part B

Consider the given class that stores a mesh (**Mesh**). The **Mesh** object stores nodes, elements as well as variables stored at the nodes and elements (such as temperature and pressure). Consider as well the object **MeshMapper**, which maps the values of one mesh onto another new mesh. Consider the provided main which shows the usage of this class. This code has been generated using AI tools.

Given the provided code, suggest changes to the architecture and implementation (any changes can be proposed), to improve the provided code, but in particular the computational efficiency and/or accuracy of the **MeshMapper**. All code modifications are allowed to any of the provided code. This includes techniques covered in class and beyond. Remember to add comments to your code explaining your architecture and implementation.

Submit your edited code via GitHub, as well as a brief one-page document (Arial 11pt) explaining your changes to the architecture and the code. Follow the template provided for this document. Show how your changes have improved efficiency and explain how you quantify these changes.