Mid-Term Presentation

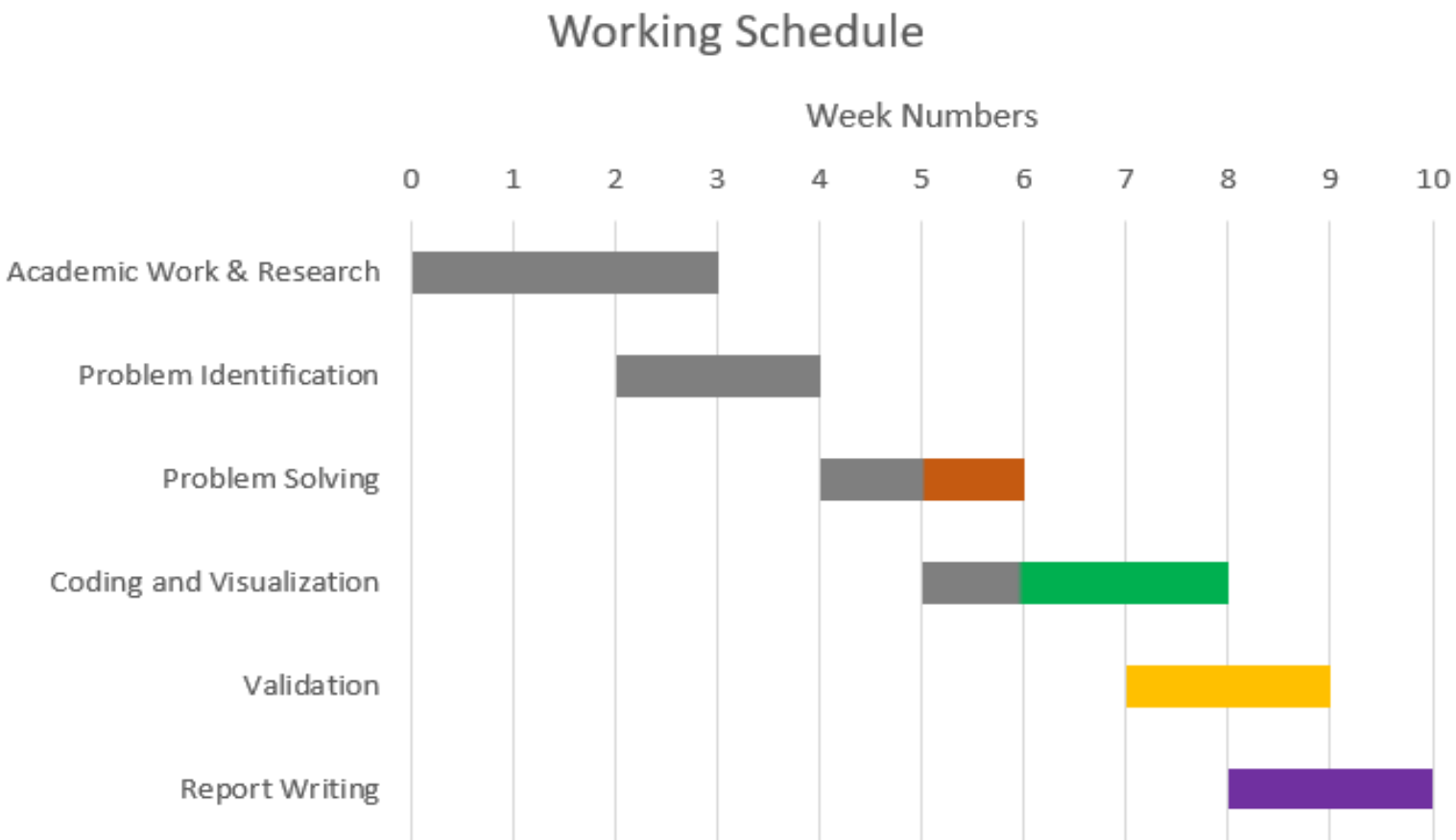
Group A

March 3, 2022

Introduction

- Finite Element Method (FEM) is a procedure of numerical solution of a domain viewed as the collection of sub-domains.
- FEM on static structures computing the stress and displacement.
- The actual problem will be replaced by simpler ones to find one approximate solution.

Gantt Chart : Progress



Progress so far...

Theoritical Background

Studied about FEM and its applications

Probem solving and identification

solved various problems manually and continued working on truss.

Implementation And Analysis

implemented in python in multiple attempts and analyzed.

Class Implementation

custom classs in jupyter notebook for nodes and matrices.

Mechanical Approach

followed joint and sectional method and verified .

Visualization

code for visualizing any problem given the coordinates.

Things left

Working of solution:

- Solution part is working for some problem but not for all.
- Why, how and in which cases the solution can work in all problem is to be worked on.

Software Visualization:

- Data has been generated, solved upon and visualized to an extent both theoretically and manually.
- The streamlining of all these components and compiling it is needed.

Things left

Theoretical readings:

- As of now, we have only worked and implemented on software.
- Knowledge of mandatory principles and applications of FEM is to be thoroughly studied.

Report Writing:

- Final report of the project is to be written.