



**IMPLEMENTATION OF FINITE ELEMENT METHOD (FEM) IN SOLVING  
STRENGTH OF MATERIAL PROBLEMS.**

**AZMAN BIN SAMSUDDIN**  
**(98497086)**

**ROS SUKRI BIN OMAR**  
**(98135326)**

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## ABSTRACT

The purpose of this project is to introduce us to Finite Element Method. These projects also teach us how to make a model and simulate the engineering problems using commercial FEM software. In this project the software that we used is LUSAS. With LUSAS software we can model the structure or shape in solving the strength of material problems. It is contain strength of material, LUSAS modeler that helps us to understand what is FEM in more details. In this project we had included note on strength of material to show the various types of stress, loading, shape beam and etcetera. It can be used to calculate using the analytical methods to solve the simple strength of material problems. We had developed the model using the LUSAS software and do convergence check. We also compared the result using the analytical method and LUSAS software. From that comparison we get the result have a very small error and we can assume that the result are closely same. Here also shows us the limitation and advantages when used the LUSAS software and analytical method. It is hope that we and students could see and understand both of the method because both methods are very important.

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