

عنوان مقاله:

MATLAB codes for Finite Element Analysis of a Truss

محل انتشار:

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خلاصه مقاله:

Truss is a basic structural element of complex structures. Therefore, truss analysis which required to design to meet basic structural requirements plays a vital role in civil engineering world. The purpose of this study is to develop a computer program for the analysis of statically determinate plane truss, of any configurations, which is subjected to any joint loads. The proposed plane truss structure analyzed in this study is 37m in length with 8m height. The type of material used in the proposed plane truss structure is steel. In this paper, MATLAB programming language is used by applying matrix stiffness method to develop an analysis program for the proposed plane truss. Then the proposed plane truss is analyzed by existing engineering software, SAP 200 and ABAQUS to compare the results generated from the plane truss analysis program for validation. This developing program automates truss analysis process. This study reveals step-by-step evaluations for the analysis of plane truss by using MATLAB code

کلمات کلیدی:

MATLAB code, Finite Element Method, Truss analysis, displacement, reaction

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