

Structural Analysis Program for Plane Trusses

A Special Problem Presented to
The Faculty of the School of Graduate Studies
CENTRAL PHILIPPINE UNIVERSITY
Iloilo City

In Partial Fulfillment
of the Requirements for the Degree
Master of Engineering

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ABSTRACT

The special problem shall develop a program that would analyze engineering structures involving plane trusses. The language that will be used shall be BASIC.

The program will be structured in a way that would simplify the tremendous procedure in the analysis of plane trusses. One will be able to acquire the correct results by simply inputting the known parameters and the given data for the structure. Moreover, it would improve the level of accuracy by eliminating possible errors of manual computation and also save time in doing the structural analysis.

The plane trusses to be analyzed will be subjected to limitations that will be discussed later in the preceding chapters. Among those are number of bar members, type of load placement, etc. The method that will be used in the program is Matrix Displacement Method for Plane Trusses.

Input parameters will be the geometry and member properties of the truss under investigation and loading conditions. There will be different sets loading made available for the same structure described. Output will consist of joint movements that will determine the final deformation of the plane truss.

A sample structure shall be used to illustrate the workings of the program. A program listing and sample problem printout shall be presented for easy reference of readers.