Fluid mechanics may have complicated systems where the analytical solution is tedious and time consuming. Changing one or more boundary conditions may add more challenges. Computer software provides easy and flexible solution to the fluid mechanics systems even when the boundary conditions are changing to describe the reality. In this work MATLAB code is used to solve the well-known third order ordinary differential equation that is Blasius equation. The results obtained are compared to other numerical and analytical solution available in the literature.

Results showed that with a simple code written using MATLAB the problem can be simulated and solved easily. A comparison between the solution obtained by MATLAB and the solutions published in literature showed a comparable results and same trends. Computers software allows getting very accurate results depending on the numerical method selected for the solution.
References


Index Terms

Computer Science
Information Sciences

Keywords

MATLAB, Blasius, Fluid mechanics, numerical integration