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Abstract : Physical problems are usually formulated in terms of boundary value problems. Such problems must be well-posed in the sense that the solution of a particular problem must be unique and the solution should depend continuously on the boundary conditions. We discuss conditions under which certain well-Known problems are well-posed. An application of the maximum principle for harmonic functions shows that the Dirichlet problem in a bounded domain is well -posed. However the Cauchy problem for the Laplace equation on the upper half plane is ill-posed. The Cauchy problem for the wave equation in the domain is well-posed but is ill-posed if . Formulation of the boundary layer equations for an incompressible fluid is discussed. The set of two partial differential equations is reduced to a single third order ordinary differential equation by means of a similarity transformation. The problem is transformed to the following Blasius problem We discuss the well-posedness of the above problem by replacing the second condition by We find that for , there exist two solutions and beyond there is no solution to the problem. Since a very small value of gives rise to a second solution which may differ by large amounts from the unique solution of the Blasius problem, we conclude that the Blasius problem is ill-posed. Falkner-Skan equation is also solved. It can be transformed by a Wang transformation whose solution can be exploited to find the unknown second derivative . However no degeneracy seems to be present in the Falkner-Skan problem

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