CALCULUS-LEVEL PROBLEM-SOLVING

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ABSTRACT

I will present how one can solve math problems within an hour or two. Enter your equations, any constraints, and an objective (function), and then execute. The solvers are in a library and thus called by name; no coding of numerical methods! We will discuss curve fitting, inverse problems, implicit equations, IVP, and BVP coding and execution. Many problems execute in less than one-minute and provide an optimum solution. Gurus in industry are going to challenge your solutions, so how do you know that solutions from Calculus-Level Problem-Solving are valid? Will discuss this issue. (See website, http://fortranCalculus.info/example/calculus-programming.html, intro.) Calculus-level languages are based on automatic differentiation and operator overloading. My introduction will provide some history. The first calculus-level language, PROSE, was introduced in 1974 on time-sharing computers. Several big users have in-house versions. Free CD with compiler; free evaluation copy until 1-1-2016. Hands-on usage at my exhibitor table/booth.