



# A Novel Approach to Teaching CS 1 and CS 2

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In most introductory programming classes, the approach is to utilize a single structured programming language such as Pascal, Modula 2, ADA, or, to a lesser extent, C. The language of choice is then carried into the second programming class where data structures are implemented.

Our approach has been to introduce the novice programmer to both Pascal and Modula 2 in the introductory course, and then continue the utilization of these into the data structures course. The rationale behind this is that the Pascal provides an easily codeable, almost pseudocode model for the solution of a problem whereas the Modula 2 provides the use of creating library modules by introducing the user to implementation and definition modules. Obviously, the student is then provided with the concept of data hiding and transparency which can be applied later to a course in ADA or C programming.

All assignments may be done in either language and all sample handouts are provided for the student in both languages. This also stimulates someone who may have earlier learned one but not the other language to easily make the transformation from one to another.

Students who have completed this sequence invariably fare well in more advanced areas of study such as software engineering, analysis of algorithms, numerical computations, and advanced programming (usually done in C). This situation also provides a great deal of flexibility to alter the first and second courses (by introducing a new language, for example) without having a serious impact on the remaining curriculum.