Homework 5: Pascal

This homework is due Thursday, February 23, 1989 (in recitation). Each weekday that the homework is late you lose 10% of the possible points.

1. (3 points) Describe a programming situation where structural type equivalence is preferable to name type equivalence, and briefly state why structural type equivalence is prefered in that situation.

2. One reason for the success of Pascal is its careful selection of features. Some features found in other languages, such as dynamic arrays, have been deliberately omitted from Pascal. This problem is designed to make you think carefully about the design of Pascal by considering what could be omitted from the language.

   (a) (8 points) List the four features of Pascal that you think programmers could most easily do without. (That is, what four features would you eliminate from Pascal?) A feature is either a kind of statement (for example, the **if** statement), or a built-in type (such as **integer**) or type constructor (such as **array**).

   (b) (12 points) For each of the four features you listed in part (a), justify its elimination from Pascal on the basis of language design principles and the goals of Pascal.

   (c) (12 points) For each of the four features you listed in part (a), justify its inclusion in Pascal on the basis of language design principles and the goals of Pascal.