

Solutions to Selected Problems in
The Elements of Programming Style
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Chapter 7

Problem 1

The difficulty with declaring some variables and relying on the “standard” definition for others is that it can become unclear which definition one is working with. In the example given in the text, the variables `X` and `Y` are declared to be integers and the variable `TEMP` is declared (by default) to be floating point. As the code proceeds we see a mistaken use of type assignment whereby we assign `X` to `TEMP` and equivalently `TEMP` to `X`. With out casting or comments in the code it is unclear whether

- This is careless programming
- An unnoticed mistake is being made

The problem stems from the use of mixed conventions. One should either always declare the type of each variable *or* always assume the default type assigned by `FORTRAN`.

This problem can also manifest itself when one is maintaining code written by others. If their conventions are different from the maintainers the use of mixed convention can make the understanding of the code much more difficult and the chance of error greater.

The lesson to take away from the problem is that one should never mix conventions when coding.

Problem 2

Using a very large obvious continuation character (like an ampersand) could make the fact that a continuation character remained. In addition, the use of a character that would result in errors when the resulting source file was compiled would make it impossible to compile the program with this error. An example of such a character might be would be a character that could not start a statement or a variable. Any of the integers 1-9 could be used for this purpose. Similarly the decimal point would be a poor choice.

Problem 3

I would argue that these comments are rather good. They are written at a level where they should be. The level is slightly higher than that which the actual code is written at. As has been stated by Steve McConnell in “Code Complete” each of the comments states *what* the code is doing not *how* it is doing it.