Homework 2

1. Chapter 1 RQ #1
Q: Why is it useful for a programmer to have some background in language design, even though he or she may never actually design a programming language?
A: The reasons given in the book are:

- Increased capacity to express ideas
- Improved background for choosing appropriate languages
- Increased ability to learn new languages
- Better understanding of the significance of implementation
- Better use of languages that are already known
- Overall advancement of computing

In essence, studying how programming languages work gives the programmer more knowledge, which in turn makes for a better programmer. When all you have is a hammer, everything looks like a nail. By studying language design, programmers are able to expand their toolkit. Sometimes, a hammer is the perfect tool for the job, but it oftentimes isn't. Furthermore, computer science and programming are a relatively new discipline, meaning that change happens all the time. The hammer (i.e the programming language or data structure) you are using today could very well be obsolete by tomorrow. This is less of a problem if (a) you have many other tools to use and (b) understand the fundamentals of language design and thus can pick up the new tools instead.