Read the following and then answer the questions below. Turn in your answers separately from your programming homework. Be sure your answers are organized and clearly written (or typed).

• Ch. 1: 1.1, 1.3–1.6

1. After reading Section 1.1, reflect on and write down what you have found to be difficult in terms of learning new programming languages and what you think will be difficult about learning new programming languages for you now and into the future.

2. In your own words, summarize the ideas of readability (Section 1.3.1), writability (Section 1.3.2), and reliability (Section 1.3.3) discussed in the book.

3. Describe the role that readability, writability, and reliability each plays in terms of cost (Section 1.3.4).

4. In your own words, summarize the ideas of simplicity (Section 1.3.1.1) and orthogonality (Section 1.3.1.2) in language design and describe how they interact.

5. In 1.3.3.1 the following claims are made about type checking: (a) Type checking is an important factor in language reliability; (b) Because run-time type checking is expensive, compile-time type checking is more desirable; and (c) The earlier errors in programs are detected, the less expensive it is to make the required repairs. Try to justify these claims, i.e., what do you think the reasons are for each of these three statements regarding type checking?

6. Give two examples from the book (Section 1.6) where the readability, writability, and/or reliability criteria conflict in languages.