Homework 10, CPSC-4175

Chapter 09, Object-Oriented and Classical Software Engineering

October 16, 2017

This homework includes significant research requirements beyond the text. It's more important to focus on the general concepts than it is to memorize formulas. It's also important to illustrate your understanding of the concepts by giving examples, and by writing brief summaries of the material.

1. In building a software product, the book identifies two kinds of planning that must occur. Name the two types and give two examples of each.

2. What does figure 9.1 tell you about the range of cost estimates during the various workflows of a software project? Be specific as to the percentage of uncertainty at each of the four workflows shown on the X axis of the chart.

3. The book identifies two different kinds of costs associated with building a software product. Identify the two kinds of costs, and for each give two examples.

4. The book lists six reasons why the LOC (lines of code) metric may not be satisfactory. List four of them and for each, give an example (preferably from your own personal experience) showing the problematic nature of that reason.

5. The *function point* metric is widely used. Do some independent research on function point analysis/-function point estimation and write a brief summary of your research. In particular, Does there seem to be a widely accepted formula for function point estimation?

6. The book references IEEE-158. This standard has been superseded by IEEE-16326. I have placed a copy of IEEE-16326 in the SWE directory of my Github repository for CPSC-4175. Select one major subsection of subsection 5 (Elements of the project management plan) and write a brief discussion of that major subsection. Choose whatever item interests you.

7. The book notes that, for every 100 hours developers spent on implementation, they spent 150 hours on activities related to documentation. Give some thought to your project in this class, and state some practices and/or guidelines you may adopt in an effort to generate appropriate documentation for your project. As you will discover when you work as a developer, in many cases, a failure to document your efforts is tantamount to a failure to complete the project.

8. Why do you think a user would conclude that you did not write a piece of software if you did not document the software?