

(60–311) ASSIGNMENT 1

Due: 10:00am, Sept. 29, 2010

1. **1.3** (pp. 18) What are the four important attributes which all software products should have? Suggest four other attributes that may sometimes be significant.
2. **1.4** (p. 18) What is the difference between a software process model and a software process? Suggest two ways in which a software process model might be helpful in identifying possible process improvements.
3. **4.3** (p. 91) Explain how both the waterfall model of the software process and the prototyping model can be accommodated in the spiral process model.
4. **26.1** (p. 639) Under what circumstance might a company charge a much higher price for a software system than suggested by the cost estimate plus a normal profit margin?
5. **26.6** (p. 640) The COCOMO method is used to estimate the effort required to develop a safety-critical software system that is designed to control a radiotherapy machine to treat patients suffering from cancer. An estimate of 26 person-months is computed. All cost driver multipliers were set to 1 when making this estimate.

Explain why this estimate should be adjusted to take project, personnel, product, and organizational factors into account. Suggest four factors that might have significant effects on the initial COCOMO estimate and propose possible values for these factors. Justify why you have included each factor.

6. **26.7** (p. 640) Give three reasons why algorithmic cost estimates prepared in different organizations are not directly comparable.
7. Choose a software system of your own interest, and conduct a survey to establish the need for such a system.
8. Investigate the market to find out the competitive factors of your system.