# CSC584 Assignment 2 – Questions

# Chapter 22: Project Management

## Identify all possible software project management activities. Explain why the best programmers do not always make the best software managers. You may find it helpful to base your answer on the list of management activities in Section 22.1.

## Discuss software project risk management process and describe 12 or more possible risks that could arise in software projects.

## Propose a case study in the style used here to illustrate the importance of communications in a project team. Assume that some team members work remotely and that it is not possible to get the whole team together at short notice.

## Your manager asks you to deliver software to a schedule that you know can only be met by asking your project team to work unpaid overtime. All team members have young children. Discuss whether you should accept this demand from your manager or whether you should persuade your team to give their time to the organization rather than to their families. Identify 5 significant factors in your decision.

**Chapter 23: Project planning**

## Explain why the process of project planning is iterative and why a plan must be continually reviewed during a software project.

## Cost estimates are inherently risky, irrespective of the estimation technique used. Suggest four ways in which the risk in a cost estimate can be reduced.

## Figure 23.14 in the textbook sets out a number of tasks, their durations and their dependencies. Draw a bar chart showing the project schedule. Assume that a serious, unanticipated setback occurs, and instead of taking 10 days, task T5 takes 40 days. Draw up new bar charts showing the project might be reorganized.

## Discuss the Wideband Delphi estimation process and identify its steps. Consider the following case: There are n estimators E1, E2, …, En in an estimation team that is using Wideband Delphi process to estimate the cost of a software project. Suppose that, in estimation round i, the estimator Ej has estimation Cj(i), and the average estimation is C(i). In the next round i+1, Ej update his/her estimation Cj(i+1) = Cj(i) + (C(i)-Cj(i))\*pi, where pi is a percentage. Show, if all pi’s are the same, then the average of the estimation will never be changed.

## A software manager is in charge of the development of a safety-critical software system, which is designed to control a radiotherapy machine to treat patients suffering from cancer. This system is embedded in the machine and must run on a special-purpose processor with a fixed amount f memory (256 Mbytes). The machine communicates with a patient database system to obtain the details of the patient and, after treatment, automatically records the radiation dose delivered and other treatment details in the database.

## The COCOMO method is used to estimate the effort required to develop this system and 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.