

Exercises¹

► Exercise 1.

Classify the following software according to whether it is likely to be custom, generic or embedded; and whether it is data processing or real-time.

1. A system to control the reaction rate in a nuclear reactor.
2. A program that runs inside badges worn by nuclear plant monitors radiation exposure.
3. A program used by secretaries at the nuclear plant to write letters.
4. A program used to generate annual summaries of the radiation exposure experienced by workers.

► Exercise 2.

How do you think each of the four types of stakeholders described above would react in each of the following situations?

1. As a software engineer, you study a proposal for a new system that will completely automate the work of one individual in the customer's company. You discover, however, that the cost of developing the system would be far more than the cost of continuing to do the work manually, so you recommend against proceeding with the project.
2. You implement a system according to the precise specifications of a customer; however, when the software is put into use, the users find it does not solve their problem.

► Exercise 3.

For each of the following systems, which attributes of quality do you think would be the most important and the least important?

1. A program that is being uploaded into a spacecraft that was launched 20 years ago, and has been flying towards Pluto since then. The program will enable the spacecraft to move into an orbit of Pluto.

¹for Chapter 1 from the 'lloseng' book.

2. A system situated in a shopping centre that is used by shoppers determine which shop sells the product they want.
3. A utility package for printing bills.
4. The controller of an automatic transmission in a car.
5. A program for computing income taxes, that will be used by government employees who audit taxpayers.