



Design de Software

Worksheet 1

2025/26

1. In her keynote at ICSE 2016, Mary Shaw analyzed the progress made in Software Engineering as an engineering discipline. What are the main ideas conveyed by the author in this speech? (Pointers to presentation and summary are available at moodle).
2. In the 2018 issue of IEEE Software dedicated to marking the 50th anniversary of Software Engineering (pointer at moodle), the editorial presents an analysis of the field's progress over these 50 years. What are the main ideas conveyed in the article?
3. In the book *Software Engineering: Principles and Practice* (Hans van Vliet, Wiley, 2008) we can read:

*The term 'software engineering' hints at possible resemblances between **the construction of programs** and the **construction of bridges**. These kinds of resemblances do exist. (...) There are also good reasons for considering the construction of software as something quite different from the construction of bridges.*

 - a. Indicate at least two reasons which, in your opinion, justify each of these points of view.
4. In engineering, design is classified along a spectrum that at the two extremes has *normal design* and *radical design*.
 - a. Explain what the two terms mean.
 - b. Indicate what the main differentiating aspects are and how they vary between the two ends of this spectrum.
 - c. What are the potential risks and challenges associated with implementing radical design in software engineering.
 - d. Give an example of a software system that illustrates each end of the spectrum. Justify your choices.
 - e. In various articles and presentations, M. Jackson argues that much (if not most) of software development involves radical design.
 - i. Give at least 2 reasons why this might be the case.
 - ii. To what extent specialization, according to multiple dimensions, but especially specialization in artefacts (which the author advocates) can help change the current panorama.