

Assignment 1

Handout: **Tuesday, 3 October 2023**
Due: **23:59, Friday, 13 October 2023**

1. ACM/IEEE SE Code of Ethics and Professional Practice (10 marks)

Read the full version of the Code at

<https://ethics.acm.org/code-of-ethics/software-engineering-code/>,
pick two clauses, one from Principle 3 PRODUCT and the other from Principle 8 SELF, and then for each clause 1) describe a situation where software engineers may violate the clause and 2) discuss what could be done to avoid the situation and in consequence also the violation. (In no more than 200 words)

2. Software Processes (8 marks)

Please 1) briefly describe one software project you worked with before, 2) decide whether a plan-driven approach based on the waterfall model or an agile method like eXtreme Programming would be more appropriate for the project, and 3) justify your decision. (In no more than 100 words)

3. Verification and Validation (8 marks)

Please 1) compare the concept of verification with that of validation and then 2) name one activity of each type in our course project. (In no more than 100 words)

4. eXtreme Programming (12 marks)

Schneider et al. [1] discussed several issues they noticed when teaching eXtreme Programming (XP) at universities. Pick two issues from the paper that intrigue you, and then 1) briefly explain what the issues were about, 2) indicate where in the paper the issues were mentioned, and 3) describe what lesson(s) you learned from the discussion on the issues and how the lesson(s) could be useful if you are to apply XP to a course project in the future. (In no more than 300 words)

[1] Jean-Guy Schneider and Lorraine Johnston. 2003. EXtreme Programming at universities: an educational perspective. In Proceedings of the 25th International Conference on Software Engineering (ICSE '03). IEEE Computer Society, USA, 594–599.

5. Requirements Specification (12 marks)

Suppose you and your friends plan to implement an open-source communication software system like WhatsApp/WeChat, and you are responsible for developing the requirements document for the new system. Based on your experience with WhatsApp/WeChat, please

1. define one functional system requirement for the new system's chat window. (<50 words)
2. define one non-functional system requirement for the new system's chat window, regarding its reliability. (<50 words)

Note: 1) Use “shall” for compulsory requirements and “should” for desirable requirements; 2) Be careful with the differences between functional and non-functional requirements; 3) Make sure requirements are verifiable; 4) Provide an explanation in parentheses if necessary.

How to hand in:

Submit your typed, instead of handwritten, answers in a PDF file on Blackboard.