

**Software Engineering**  
*Sapienza Università di Roma*

21 January 2022 – Duration 90 mins

**Be concise and right to the point.** What you write should be understandable by a colleague of yours who just enrolled the MSc in Engineering in CS.

**Question 1 (Software quality) [30 mins]**

- Describe the general concept of software quality and possible definitions/standards, also providing examples.
- Enumerate the quality of the ISO 25010, for each of them provide the definition and possible ways to measure.

**Question 2 (REST Web services) [45 mins]**

- Discuss what a REST Web service is, all the concepts and technologies underlying them.
- Describe how concretely a programmer can develop a REST Web service in Java, by providing also simple pseudo-code.
- Consider a (set of) service(s) that is/are able to provide information on COVID-19 vaccinations, infected persons, when they have received doses, tests, etc. Provide the exact specification of such services (i.e., write in a schematic way which assumptions you are doing on data provided and how). On the basis of such a specification, design the REST interfaces of such service(s).  
*In doing this exercise. please provide motivations on the choices you may take and develop the solution on the basis of such assumptions.*

**Question 3 (DevOps) [15 mins]**

- Describe what is DevOps and its basic principles.
- Describe the type of approaches/technologies, providing classifications and examples, whenever possible.