Digital Technology Exam – Sample questions
AA 2024-25 – v. 2 - 19/6/2025

Structure of the exam
The exam will contain 2 questions and 1 exercise.
The questions and exercises will follow the 2024-25 program, as described in the course diary in WeBeep and enclosed material.

Questions (11 points each): Some sample questions are listed below. They should be answered explaining the main points and focusing on the text of the question, not on the general introduction of the topic. Answers containing only lists of bullet points are not considered positively.
The questions will usually be asking for a narrative text.
It is also be possible that one of the questions is a set of 15 quiz-like questions (see on WeBeep the files containing the quiz questions given in class)

Exercise (11 points): a brief fragment of Python code to explain, with one or two errors to identify, modify or insert a few lines of code to the given fragment, and a theoretical question on Python as described during the course

General rules
Time: 1h 30 min
The exam is closed books.
All questions must be at least partially answered. Lists of bullet points are not sufficient as an answer, unless some description is provided.

Study material: all material provided in WeBeep, including Handouts, slides, notebooks, and sample exams.

Sample questions.
This list includes some sample questions, however they should be considered just as examples, other questions from the material presented in the course can be asked.

1. Illustrate the differences between OLTP and OLAP
2. Discuss Moody's laws examined in the course
3. Given a relational table, identify possible quality problems and illustrate how information can be extracted with a query (e.g., all possible different values for an attribute)
4. Illustrate the main SQL constructs
5. Illustrate the process of extracting data for a datawarehouse and how

to define analysis dimensions

6. Illustrate possible formats for exchanging data between organizations (JSON, geoJSON), giving an example to illustrate the concepts.
7. Illustrate possible sources of data in an information system and illustrate one type of source in detail
8. Discuss technological approaches to object identification
9. Discuss technological approaches to object location.
10. Illustrate security properties and their management
11. Illustrate the role of encryption in the security of information systems
12. Discuss the relationship among ethical, social, political issues in an information society
13. Compare Waterfall and Agile methodologies and give an overview on the different agile methodologies
14. Explain main benefits related to Agile methodologies and give an overview on Scrum key components.

15. Discuss the relationship among ethical, social, political issues in an information society
16. Illustrate the principles of privacy laws
17. Compare Waterfall and Agile methodologies and give an overview on the different agile methodologies
18. Explain main benefits related to Agile methodologies and give an overview on Scrum key components.