

Tutorial 5

Chapter 5

1. Natural language is one of the commonly used techniques for requirement documentation (RD). Discuss 2 advantages and 2 disadvantages of natural language.

Advantages	Disadvantages

2. Recently you have been assigned to work on a project to implement an online airline ticketing system. Assume that your team has reached Requirements Specification phase, prepare a requirements document template that you would use for preparing the requirements document for the project.
3. Diagrammatic technique is another commonly used technique for producing RD.
 - (a) Discuss why software engineers would usually use more than one diagrams in preparing RD?
 - (b) Assume that your team has decided to adopt diagrammatic approach on requirements documentation, recommend **FOUR (4)** diagrams that you would include in the requirements documentation for a project. Explain each of the recommended diagrams by specifying its usages and the information presented in the diagram.
 - (c) Evaluate the use of diagrammatic approach on requirements documentation.
 - (d) Give and explain **ONE (1)** example of inter-view diagrams consistency rule between Context Diagram and DFD.
4. Formal Specification on Requirements Documentation:
 - (a) Differentiate between Algebraic approach and Model-based approach in formal specification.

Algebraic Approach

Model-based Approach

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- (b) Suggest a project scenario where formal specification is applicable. Justify your answers.
 - (c) Discuss the **TWO(2)** reasons why formal specification approach is not commonly used for requirements documentation.
 - (d) Explain any 2 advantages of formal specification.
5. Comment on the two quality requirements from the RD (as below) that prepared by your project team. Suggest how would you improve the following quality requirements:
- a) **Performance**
The system shall have fast respond time to any authorization request.
 - b) **Reliability**
The system shall have low system down time.
6. What is quality trade-off? Use example to explain your answer.
7. Discuss any **THREE (3)** guidelines for writing excellent requirements that covered in lecture.
8. XYZ College organizes a free seminar entitled “Programming is Fun” to the public. Given the use case diagram as shown in Figure 1, construct an *analysis sequence diagram* that shows the normal flow of events for the use case “Register a seminar”.

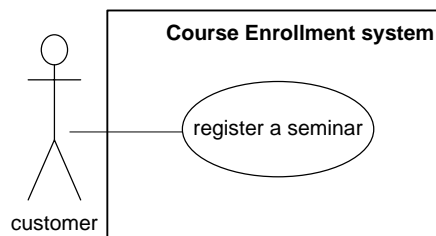


Figure 1