

1. In project management, what is the Critical Path, and how does it relate to Slack Time?

2. What types of cost are associated with software projects?

3. What is a process model?

4. Briefly describe the Spiral Model. Why is it better than Waterfall?

5. Describe the Agile/SCRUM process including its ceremonies. What advantages do the components you describe have over other models?

6. Architectural Patterns:

a. Describe the pipe-and-filter pattern and reasons why it is useful.

b. In what situation does a pub/sub pattern make a fitting solution? Why?

c. What advantages does peer-to-peer have over client-server for distributing large amounts of data?

7. Imagine you are an Apple employee, and you have been asked to design a new web interface for Apple Music that will allow users to stream their subscription service from a web browser without the need iTunes.
 - a. Write a set (5+) of descriptive high level requirements.
 - b. Write a set (5+) of descriptive low level requirements based on your previous requirements.
 - c. For each requirement in b, identify its purpose: functional, non-functional, design constraint, or process constraint.
 - d. Diagram some part of this hypothetical system. You may choose to construct an ERD, Class Diagram, Event Trace, Sequence Diagram, etc. Your diagram should call out the requirements from a & b, and be descriptive enough to call out its purpose. Remember that you are an imaginary employee, so your best judgment may be used to conjure up the contents of the diagram.