Quiz #4

1. **What are the levels of design?**
   - Architectural Design.
   - Element Interaction Design.
   - Element Internals Design.

2. **Define Architectural Design Concepts.**
   - A decision is architectural if it has non-local consequences and those consequences matter to the achievement of an architectural driver. Architectural Design involves making decisions, working with available skills and materials, to satisfy requirements and constraints. In architectural design, we make decisions to transform our design purpose, requirements, constraints, and architectural concerns. Thus, Architectural Design is a key step to achieving your product and project goals

3. **Differentiate between Reference Architectures and Architectural styles.**
   - Reference architectures are blueprints that provide an overall logical structure for particular types of applications or a reference model mapped onto one or more architectural patterns. However, architectural styles are types of components and connectors in a specified topology that are useful for structuring an application either logically or physically which tend to be popular in academia.

4. **What criteria should be considered while selecting externally developed families?**
   - The criteria that we should consider are:
     - Problem that it addresses.
     - Cost.
     - Type of license.
     - Support.
     - Learning curve.
     - Maturity.
     - Popularity.
     - Compatibility and ease of integration.
     - Support for critical quality group.
     - Size.

5. **How are patterns and tactics implemented considering their abstract nature?**
   - Patterns are implemented by providing models on how to physically structure the system to deploy it which are used to satisfy the quality attributes such as availability, performance, and security. However, tactics are implemented by providing or categorizing design decisions that influence and mediate the control of quality attributes response while focusing of a single quality attributes response because tactics provide a top-down way of thinking about design patterns.