SOFTWARE ENGINEERING CS 487
Participation 2

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1) Design patterns are “common solutions” to “common problems”. Discuss the importance of the word “common” with respect to achieving software engineering goals.

=> Design pattern is Adopted from the (building) architecture community (from notes)
This means why reinventing anything is already available. Where the term common is compared to recurring problems or challenges that are frequently seen while developing software. So using the available solutions to fix the problems and achieve software engineering goals.

2) Discuss the role of communication protocols and state-transition diagrams in fulfilling functional requirements.
=> Communication Protocol - checks standardized data exchange, interpretability and scalability which helps in functional requirements.

State-transition diagrams - mainly it checks user interaction and logic which verifies functional requirements.

Both contribute to fulfilling functional needs for software engineering.

3) Discuss the role of security architecture and user experience design in implementing user categorization.

=> I have work experience in user experience design where we ensure intuitive interfaces and personalized experience of the user and the role of security arc establish access controls and safeguard this combined approach ensures a secured system that meets the multiple needs of different user categories Eg. age restriction feature of social media and streaming platforms.

4) Discuss the role of context modeling and giving an automated system the ability to maintain awareness.

=> Context modeling enables automated systems to understand and adapt to their environment, considering factors like user preferences and real-time conditions. Also maintaining. Awareness in an automated system involves continuous monitoring, real-time processing and feedback mechanisms which allow to stay informed about the environment.

5) Compare the layout and flow of a retail store to a software system’s architecture.

=> **R**etail store layout guides the customers to get what they require in the shortest time by mapping and labelling sections (eg chips, drinks, etc) similarly software system arc organises components for effective data flow. Both focus on enhancing user experience.