CMSE-201 problem session 09.06.2022

Ch 7 Architectural design

1. What architecture is?
2. What is the box and line diagram?
3. What are the two ways of using architectural models?
4. What three types of decision shall be made in architectural design?
5. What are the four maın constraınt to be taken ınto account when developıng the system archıtecture
6. What are the three most ımportant goals of the archıtecture development
7. Why reuse of archıtecture ıs possıble?
8. Give an example of a relation between architecture and system characteristics
9. What are the five constituents of the 4+1 view architecture model?
10. What is characteristic for layered architecture pattern? What are its benefits? Disadvantages?
11. What is client-server architecture pattern? How one server can serve many clients concurrently? What are its benefits? Deficiencies?
12. What is Model-View-Controller architecture pattern? What are its advantages? Deficiencies?
13. What is pipe-and-filter architecture pattern? What are its advantages? Deficiencies?
14. What is repository architecture pattern? What are its advantages? Deficiencies?
15. What are the four types of application architectures?

Ch 6 COCOMO

1. What are the three modes of the Basic COCOMO model? What is used as an input to the model? What are its outputs?
2. What is the difference between Basic and Intermediate COCOMO models?
3. How many cost drivers are used in Intermediate COCOMO model? What for they are used? What four groups comprise the drivers?
4. Can COCOMO model be used even if size in KLOC is not available at beginning of the project development?
5. What function point (FP) count is? What are the five inputs for FP calculation? How it can be adjusted?
6. How many technical complexity factors are used for FP adjusting? What scale is used for them?
7. How FP can be converted to KLOC?
8. What are the five factors affecting software productivity?

Ch 5 Project planning

1. How slack can be used to define critical paths?
2. What three duration estimates PERT uses? How expected duration is calculated?