

Tutorial 05: CO 328

Group work: 3 students

Deadline: 05th June 2020

1. What is the primary objective of documenting design patterns?
2. Software community believes that design patterns facilitate reusable software systems. Do you agree with that? Explain your answer.
3. Assume that you have a collection of solutions to a collection of problems. Explain how you could differentiate patterns and non-patterns in these solutions.
4. State and discuss pattern organization techniques.
5. What does it mean by pattern selection problem? Do you think that all organization techniques state in question 4 assist to solve this problem? Explain your answer.
6. A binary search tree can be traversed using four methods: pre-order, in-order, post-order and level-order traversal. It is required to design an application so that users can traverse a given binary search tree using any of the four methods. explain how you could apply Strategy pattern and Factory pattern to design and implement this application. You may provide diagrams wherever appropriate.
7. Compare and contrast creational, structural and behavioral patterns.
8. Explain how could you apply the proxy and whole-part patterns together.
9. There are two design patterns that can be applied in designing variants of an algorithm that can be interchanged independently. What are those patterns? Explain how you could use these patterns to design elementary sorting algorithms.
10. State and discuss the two Adapter patterns. You should explain the advantages and disadvantage of each pattern when applying to solve a candidate problem.