

MET CS 665

Software Design and Patterns

Final Exam Preparation

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Questions

- You will have 9 **Questions**
- Questions have different points (total 100)
- Questions are **“Text Writing questions”, no multiple choice or Implementation**
- **Two Implementation questions.**
- Answer in your own words
- 2 hours exam time.

Object Oriented Programming

- Be able to understand the following concepts:
 - **Inheritance**
 - **Polymorphism**
 - **Encapsulation**
 - **Abstraction**
- Understand the Goals, Differences and Relations

Design Patterns

- **We have learned about 14 Design Patterns:**
 - **Strategy, Observer, Factory, Adapter, Decorator, Facade, Proxy, Singleton, Command, Composite, State, Template, Mediator, Visitor**
- And pattern combinations like MVC

Design Patterns

- When you would use XXX pattern?
- Provide an example use case that you would use the pattern.
- What is the solution that XXX pattern provides?
- What are the Consequences (Positive and Negatives)?
- What are related/similar patterns to pattern X?
- What are the differences between pattern X and Y?

Architecture and Frameworks

- Why we build frameworks – Main Goals
- How we build frameworks
- Which patterns are used in frameworks and libraries?

Refactoring

- What is refactoring?
- When we do refactoring?
- Why we do refactoring?
- What are different techniques?
- Which design patterns are used frequently in refactoring process?

You class project

- One or two questions related to your term project.
- What you have implemented?
- Which pattern/patterns?
- Which kind of problems are solved?