作业

学号：_____ 姓名：_____ 成绩：_____

UNIT 1 **Software & Software Engineering**（第 1 章）

1. How does software differ from the artifacts produced by other engineering disciplines?
2. How do software characteristics differ from hardware characteristics?
3. What is wrong with the notion that computer software does not need to evolve over time?
4. What factors need to be considered when selecting a process model for a project?
5. How Polya's problem solving principles describe the essence of engineering practice?

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UNIT 2 **Requirements Engineering — Understanding Requirements**（第 6 章）

1. What are the six steps for requirements engineering?
2. How do requirement engineers collaborate with stakeholders?
3. Why are nonfunctional requirements important to the requirements engineer?
4. What work products result from the requirements engineering process?

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UNIT 3 **Requirements Modeling — Building Analysis Model**（第 7 章）

1. Which models can be used in requirements modeling, and what role does each type of model play?
2. Which UML diagrams are useful in scenario-based modeling?
3. What questions should be asked to help refine a preliminary use case?
4. What characteristics should be considered when identifying potential classes?
5. What are the steps needed to build a behavioral model?

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UNIT 4 **Design & Architecture**（第 8、9 章）

1. How effective modular design is achieved through functional independence of the individual modules?
2. What is the principle of information hiding as it applies to software design?
3. What is design refactoring?
4. Why is architecture important?
5. What are the elements that make up a software architectural style?
6. What is an archetype?

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UNIT 5 **Component-Level Design & UI Design**（第 10、11 章）

1. How does the object-oriented view of component-level design differ from the traditional view?
2. What are the steps used to complete the component-level design for a software development project?
3. What principles should be followed when building any user interface?
4. What framework activities need to be completed in the development process of user interface evolution (or spiral)?
5. What things you need to do in user experience analysis if you seek to “understand the problem before you attempt to design a solution.”?
6. How to evaluate user interface design before building a working computer prototype?

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UNIT 6 **Software Testing**（第 15、16 章）

1. How does software verification differ from validation?
2. What is the difference between black-box testing and white-box testing?
3. What is object-oriented unit testing?
4. What are the attributes of a good software test?
5. Why is regression testing an important part of any integration testing procedure ?
6. What are the key differences between validation testing goals and acceptance testing goals?

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UNIT 7 **Software Configuration Management**（第 17 章）

1. What information will make up the software configuration?
2. What are the steps in the change control process of a project?
3. What is a software configuration audit ?
4. What is impact management ?

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UNIT 8 **Software Process & Process Model**（第 2、3、4 章）

1. How does software team choose the task set for a particular project ?
2. Why the spiral model is the best approach to software development in a modern context?
3. What are the key issues stressed by an agile philosophy?
4. What are the tradeoffs proposed by the “Agile Manifesto” ?
5. What are the three questions that should be answered by each team member at the daily Scrum meeting ?
6. Why should requirements engineering be an iterative process ?
7. Why is it important to test a protype using the stakeholders?
8. What are the types of maintenance activities？

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UNIT 9 **Project Management & Software Plan**（第 5、19、20 章）

1. What are four P's of effective project management?
2. What are the characteristics of software engineers should posess?
3. What are the key attributes of an effective software teams?
4. What are the environment characteristics that can be considered toxic to software teams? How to avoid it?
5. How can agile teams avoid toxicity that affects the context of project?
6. How is software scope defined?
7. What are the questions that need to be answered using the W^5H^2 ?