

浙江大学 2007 - 2008 学年春季学期

《软件工程》课程期末考试试卷

开课学院：计算机学院，考试形式：开卷，允许带1本正式出版的参考书入场

考试时间：2008年4月18日, 所需时间：120分钟，任课教师：_____

考生姓名：_____ 学号：_____ 专业：_____

题序	一	二	三	四	总分
得分					
评卷人					

I. Please select the correct answers and fill in the answer sheet: (20 pts.)

Note: Zero point for a blank selection since there is at least one answer for each problem.

- Which question no longer concerns the modern software engineer?
 - Why does computer hardware cost so much?
 - Why does software take a long time to finish?
 - Why does it cost so much to develop a piece of software?
 - Why can't software errors be removed from products prior to delivery?
- How does a software project manager need to act to minimize the risk of software failure?
 - double the project team size
 - request a large budget
 - start on the right foot
 - track progress
- What does the system specification describe?
 - functions of a computer-based system
 - implementation of each allocated system
 - performance and constraints of the system
 - time required for system simulation
- Which of these are goals for WebE requirements gathering?
 - Define user interaction scenarios
 - Identify WebApp development tools
 - Determine performance constraints
 - Identify content requirements
- The criteria used to assess the quality of an architectural design should be based on system _____.
 - accessibility
 - control
 - data
 - implementation

6. The OO testing integration strategy involves testing
- A) groups of classes that collaborate or communicate in some way
 - B) single operations as they are added to the evolving class implementation
 - C) operator programs derived from use-case scenarios
 - D) none of the above
7. Which of these activities is not one of the activities recommended to be performed by an independent SQA group?
- A) prepare SQA plan for the project
 - B) review software engineering activities to verify process compliance
 - C) report any evidence of noncompliance to senior management
 - D) serve as the sole test team for any software produced
8. As the WebApp architecture is constructed which types of testing are used as integration tests?
- A) Component testing
 - B) Content testing
 - C) Navigation testing
 - D) Usability testing
9. Which of the following tasks are part of software configuration management?
- A) change control
 - B) statistical quality control
 - C) reporting
 - D) version control
10. Software risk always involves two characteristics
- A) fire fighting
 - B) loss
 - C) uncertainty
 - D) crisis management

II. Please specify “T” (true) or “F” (false) for the following statements and *fill in the answer sheet.* (10 pts.)

1. It is generally accepted that one cannot have weak software processes and create high quality end products.
2. Because there are many factors to consider in any design effort, all design should be as complex as possible.
3. Components should be loosely coupled to one another and to the external environment.
4. The computer's display capabilities are the primary determinant of the order in which user interface design activities are completed.
5. Object-oriented domain analysis is concerned with the identification and specification of reusable classes within an application domain.
6. Test planning can begin as soon as the analysis model is complete.
7. The purpose of software reviews is to uncover errors in work products so they can be removed before moving on to the next phase of development.

8. Once a software engineering work product becomes a baseline it cannot be changed again.
9. Tasks that lie on the critical path in a task network may be completed in any order as long as the project is on schedule.
10. The generic process framework — communication, planning, modeling, construction and deployment — is not applicable to WebE.

III. Please give *brief* answers to the following questions: (20 pts.)

1. Please list three characteristics that can serve as a guide to evaluate design quality. (6 pts)
2. For the statement `if (A>B) || (C==D)`, what is the minimum number of test cases required to test every condition at least once? Please briefly verify your answer. (6 pts)
3. Please describe the three partitioning strategies that can be used when performing class-level testing for object-oriented systems. (6 pts.)
4. Please describe the contents of the WebApp functional, and interaction models. (2 pts.)

IV. Order-Processing System (50 pts.)

Software scope: A company is establishing a new catalog sales division (分类推销部) to sell casual apparel (便装) and outdoor merchandise (户外活动商品). The casual apparel catalog includes shirts (bowling shirts, golf shirts, racing shirts, college shirts, etc.), wears (ladies wear, active wear, outer wear, etc.), jackets (leather jackets, rain jackets, casual jackets, etc.), and others such as sunglasses, hats, pants, and more. The outdoor merchandise catalog includes goods for hunting, fishing, camping, and more. The catalog will be published on the World Wide Web, and orders can be placed by e-mail, via the web site, or via telephone, or fax. A client/server system will be built to support order processing at the company site. The orders are to be collected daily from all places, and be stored in a database. Everyday at 6:00pm, the orders are classified and sent to the corresponding shipment departments. Shipment can be made if payment is by credit card, and must wait until the check is cashed if payment is by check. If the ordered item is out of storage, a notification will be sent to the customer, and the order will be delayed or canceled, depending on the customer's decision.

1. Please draw the data flow diagram for processing an order. (12 pts.)
2. Please give the two CRC cards for classes “catalog” and “order”. (8 pts.)
3. Please give the use-case for browsing the web-site and place an order with credit card payment. (10 pts.)
4. Please draw the corresponding NSU for the use-case described in step 3. (10 pts.)
5. Please draw the overall hierarchical call-and-return architecture of the system. (10 pts.)

Answer Sheet

Part I				
1.	2.	3.	4.	5.
6.	7.	8.	9.	10.
Part II				
1.	2.	3.	4.	5.
6.	7.	8.	9.	10.

Part III and Part IV