Software Eng, Final Exam, 2017, İstanbul University, Computer Eng. Dept.(Örgün) 8:40-10:10
Questions requiring you to describe a term is worth twice as much points as the regular test questions

1. Define the following terms with a sentence?
   a. Software: *programs+related_documentation*_____
   b. Software process: structured_set_of_activitie_to_develop_software
   c. Software process model: abstract_representation_process_____
2. Software process involve the followings:
   a. Specification
   b. Development__
   c. Validation____
   d. Evolution_____
3. Which one is false about incremental development
   a. Activities are interleaved
   b. Development proceeds with many intermediate versions
   c. Changing reqirements are easier to accomodate
   d. More rapid delivery is possible
   e. Getting customer feedback is problematic
4. What are the process stages in Reuse oriented software eng.?
   a. Component analysis
   b. Requirement_modification___
   c. System desgin with reuse__
   d. Development & integration__
5. Testing stages are
   a. Component testing
   b. İnterface testing_____
   c. System testing_____
6. Which one is not a step in system evolution
   a. Define a new requirement
   b. Assess existing system
   c. Propose changes
   d. Validate existing system
   e. Modify the system
7. Prototypes are thrown-away because they are not
   a. Undocumented
   b. Very difficult to tune
   c. Quickly degrading structure
   d. Difficult to test
8. Which one is true about Boehms Sprial Model
   a. Process is represented as a spiral
   b. Each loop represents a phase.
   c. There are fixed number of phases
   d. Risks are explicitly assessed and resolved.
9. The RUP doesn't include
   a. Dynamic perspective
   b. Behavioral perspective
   c. Static perspective
   d. Practive perspective
10. Which one is not a RUP good practice
    a. Develop software iteratively
    b. Manage requirements
    c. Use component-based architectures
    d. Visually model software
    e. Reduce to software

11. Agile mainfesto doesnt include favoring(preferring)
    a. Following a plan over rapid development
    b. Individuals & interactions over processes & tools
    c. Working software over detailed documentation
    d. Customer collaboration over contract negotiation
    e. Responding to change over following a plan
12. XP and Agile principles doesn't include
    a. frequent system releases.
    b. full-time customer engagement with team.
    c. pair programming & collective ownership
    d. detailed documentation
    e. code refactoring.

13. Define the following terms with a sentence
    a. User requrement: Requirement written in natural language for customer/user
    b. System Requirement : detailed requirements+ UML for contract negotiation and techical team
    c. Functional requirement: services/functions to be provided to user by software
    d. Non-functional requirement: constrains or properties such as timing, security on software
14. Which one is not a Metric for specifying nonfunctional requirements*
    a. Speed
    b. Size
    c. Testability
    d. Usability
    e. Reliability
15. Requirement checking doesn't involve
    a. Validity
    b. Consistency
    c. Completeness
    d. Accuracy
    e. Verifiability

16. Testing is done to show that
    a. Reveal/find_errors_____
    b. Program_meets_cust_requir yada doğru çalışması
17. Define the following terms with a sentence
    a. Alpha testing: users testing software at developer site with development team
    b. Beta testing: software tested by users to report problem to developer team
18. Which is false about static verification
    a. People examines the source code
    b. Doesn't require execution
    c. Can check non-functional characteristics
    d. effective techniques for finding errors

19. Define the following terms with a sentence
    a. Evolution: new functionality added & errors fixed & adaptation to new environment
    b. Servicing: only error fixing, no new functionality___
    c. Phase-out: no new funct. no error fixing, no maintanence
20. Software may be changed because of
    a. New requirements
    b. Errors
    c. new documentation
    d. New platforms
    e. Poor performance

21. Which one is not a type of software maintanence
    a. Maintenance to repair software faults
    b. Maintenance to adapt software to a new operating environment
    c. Maintenance to refactor code and improve dependability
    d. Maintenance to add to or modify the system's functionality
22. Which one is not a re-engineering process activity
    a. Source code validation
    b. Reverse engineering
    c. Program structure improvement
    d. Program modularisation
    e. Data reengineering

23. Define the floowing terms with a sentence
    a. Safety: property of software not harming users and data and environment_____
    b. Security: property of software protecting against unauthorized access_____
24. Which one is not a dependability property?
    a. Repairability
    b. Maintainability
    c. Survivability
    d. Recoverability
    e. Error tolerance

25. Software Project management is concerned that software is delivered…
    a. On time
    b. On budget_____
    c. Meeting customer expectation
26. Management activities involve
    a. Project planning
    b. Reporting
    c. Risk management
    d. People management
    e. Change management
27. Risk management process doesnt include
    a. Risk reduction
    b. Risk identification
    c. Risk analysis
    d. Risk planning
    e. Risk monitoring
28. Which one is not a risk for software projects
    a. Recruitment problems
    b. Changing customer needs
    c. Staff quantity
    d. Staff illness
    e. Defective components

QUESTIONS:

1 (10 points) Design class diagram for a hospital involving patient, doctors, appointments(examinations). Create at least one association, one generalization, an one aggregation relationship between classes. You can define extra classes if necessary.

2 (10 points) Design a use case diagram for a hospital information system in which doctors examine patients, prescribe medications to patients. Create at least one <include> and at least one <extend> relationship. You can define extra tasks (use cases) if necessary.

3 (10) Design an activity diagrams for patients coing to hospital for examination. Here are the steps in patient registration/examination:

1. Make an appointment with a doctor.
2. Upon coming to hospital for that appointment. İf not registered before (first time), register in the hospital database.
3. Pay for the examination.
4. Visit the doctor for examination (doctor performs examination)
5. İf doctor requests any tests, have the tests done and go back to step 4.
6. İf there is a prescription, buy the medication from the pharmacy.

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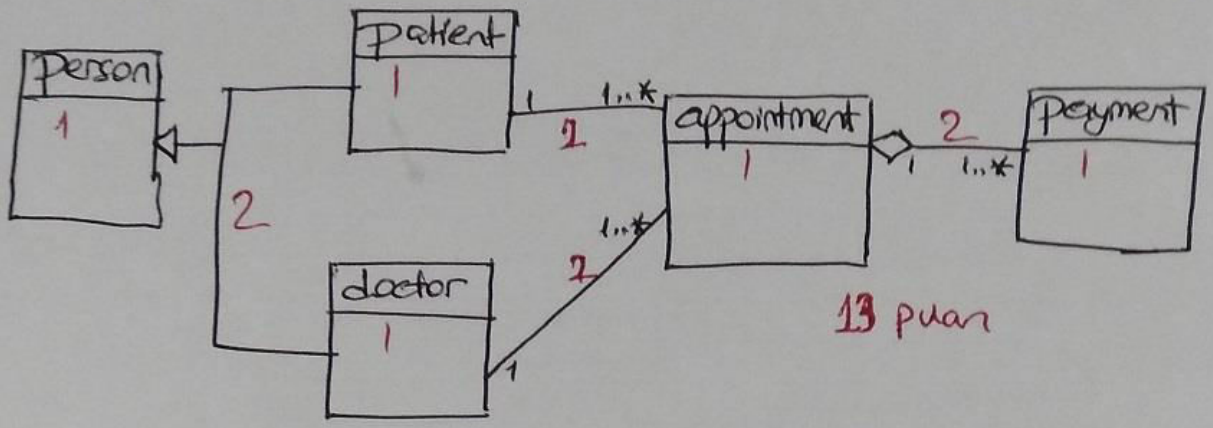

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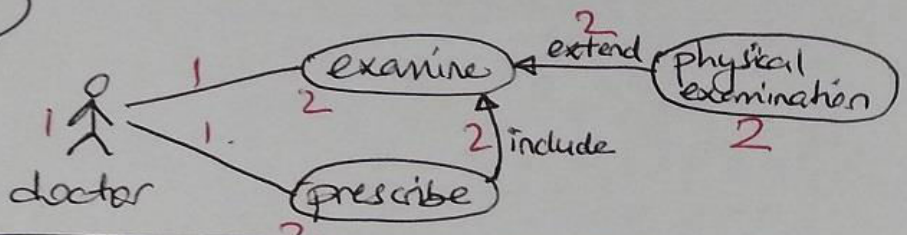

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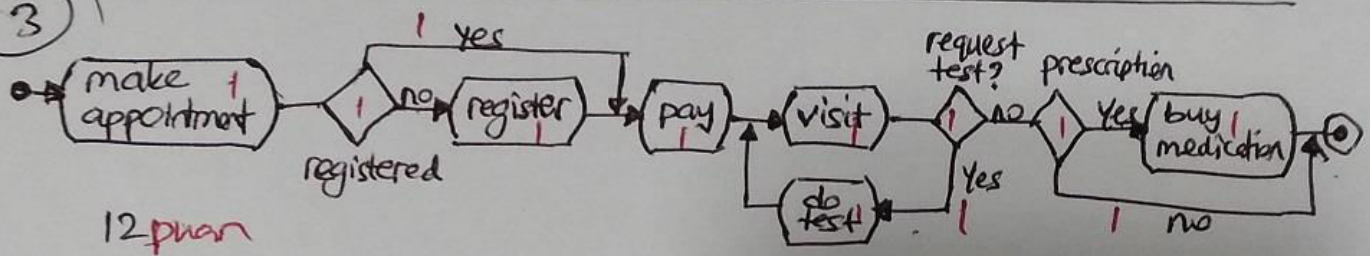

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