

1. Complete the followings
 - a. The main characteristics of waterfall model is _____
 - b. The main characteristics of Incremental development is _____
 - c. The main characteristics of Reuse-oriented development is _____
2. The 5 phases of waterfall model are the followings
 - a. Requirements analysis and definition
 - b. _____
 - c. _____
 - d. _____
 - e. _____
3. What are the main steps of Requirements eng. Process?
 - a. Feasibility study
 - b. Requirements elicitation and analysis
 - c. Requirements specification
 - d. Requirements validation
4. What are the 4 main design activities?
 - a. *Architectural design*
 - b. _____
 - c. _____
 - d. _____
5. Which one is not a benefit of prototyping
 - a. Improved usability
 - b. Improved design quality
 - c. Improved maintainability
 - d. Improved development effort
6. Which one is not a step of prototype development?
 - a. Establish objectives
 - b. Define functionality
 - c. Develop prototype
 - d. Validate prototype
 - e. Evaluate prototype
7. Which one is not an Incremental delivery advantage?
 - a. functionality is available earlier
 - b. Early increments act as a prototype
 - c. Lower risk of overall project failure
 - d. Important services are test the most
 - e. Ideal for replacement systems
8. Spiral model sectors doesn't include
 - a. Objective setting
 - b. Risk assessment and reduction
 - c. Specification & Design
 - d. Development and validation
 - e. Planning
9. Phases in RUP doesn't include
 - a. Inception
 - b. Elaboration
 - c. Construction
 - d. Validation
 - e. Transition
10. Which one is not a static workflow in RUP
 - a. Testing
 - b. Deployment
 - c. Environment
 - d. Specification
 - e. Project management
11. The principles of agile methods doesn't include
 - a. Customer involvement
 - b. People not process
 - c. Embrace change
 - d. Maintain simplicity
12. XP practice doesn't include
 - a. Pair programming
 - b. Business modelling
 - c. Continuous integration
 - d. Sustainable pace
 - e. On-site customer
13. Define the following terms with a sentence
 - a. User requirement

 - b. System Requirement

 - c. Functional requirement

 - d. Non-functional requirement

14. Which one is a type of nonfunctional requirement?
 - a. Usability
 - b. Efficiency
 - c. Dependability
 - d. Visibility
15. Which one is not generic activities in requirements eng. Processes?
 - a. Requirements elicitation
 - b. Requirements assessment
 - c. Requirements analysis;
 - d. Requirements validation;
 - e. Requirements management
16. Testing is done to show that
 - a. _____
 - b. _____
17. Define the following terms with a sentence
 - a. Defect testing

 - b. Validation testing

18. General testing guidelines include
 - a. Choosing inputs generate all error messages
 - b. Designing inputs causing buffers to overflow
 - c. Repeating the same input numerous times
 - d. Force invalid input to be generated
 - e. Force computation results to be too large or too small.
19. Define the following terms with a sentence
 - a. Evolution

 - b. Servicing

 - c. Phase-out

20. Software evolution process doesn't involve
 - a. Impact analysis
 - b. Release planning
 - c. Change implementation
 - d. System design
21. Which one is not a bad smell in program code
 - a. Duplicate code

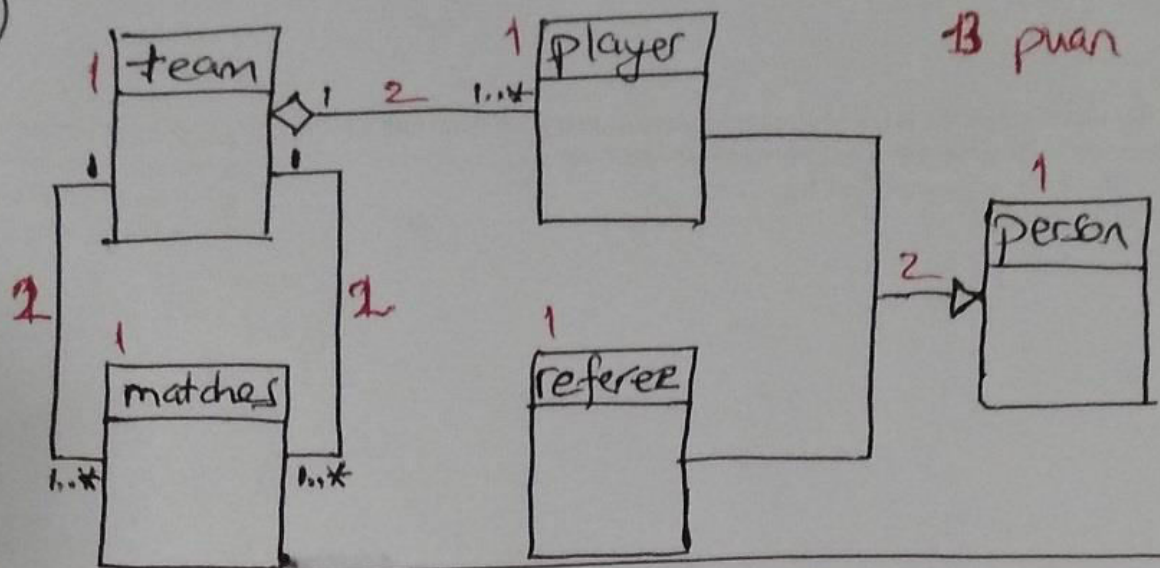
- b. Long methods
 - c. Switch (case) statements
 - d. Code clarity
 - e. Speculative generality
22. Define the following terms with a sentence
- a. Availability
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- b. Reliability
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23. Which one is wrong about dependability attribute dependencies?
- a. Safety depends availability and reliability.
 - b. Reliability depends on security
 - c. Availability depends on security
 - d. Safety depends on security
 - e. Availability depends on reliability
24. Which is wrong about following reliability statements
- a. System fault is property of a system causing system error
 - b. System error is an erroneous system state
 - c. System failure is an event
 - d. System failure is a safety problem
 - e. Human error is a human mistake
25. Which one is not Software Project management success criteria
- a. Deliver software on time
 - b. Deliver software within budget
 - c. Deliver software meeting requirements
 - d. Deliver an error-free software
 - e. Maintain a happy team
26. Software Project are different than other types of projects in the following aspects
- a. The product is intangible
 - b. Many software projects are 'one-off' projects
 - c. Software processes are variable and organization specific
 - d. Generic software are easier to manage
27. A checklist of common risks doesn't include
- a. Technology risks.
 - b. People risks.
 - c. Organisational risks.
 - d. Requirements risks.
 - e. Assessment risks.
28. Which one is not people management factor
- a. Contemplation
 - b. Consistency
 - c. Respect
 - d. Inclusion
 - e. Honesty

QUESTIONS:

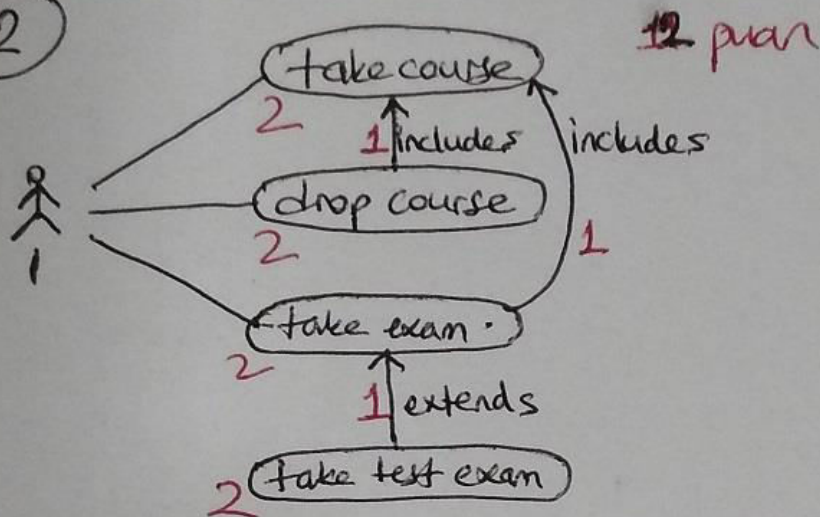
- 1 (10 points) Design class diagram for a soccer league as follows: Teams consist of players. Teams play matches between them. Create at least one association, one generalization, and one aggregation relationship between classes. You can define extra classes if necessary.
- 2 (10 points) Design a use case diagram for a university information system in which students take courses, drop courses, take exams in those courses. 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 diagram for registering courses at the beginning of a semester in a university. Here are the steps in course registration:
 1. Courses that can be taken that semester are made available by the department.
 2. Student chooses the courses from the list, if course capacity is full, that course can't be taken
 3. Student advisor approves or disapproves the courses selected by student
 4. if approved, registration ends
 5. if disapproved, go back to step 2.

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