19CS302
Quick Revision Keys Unit 4

Bhaskarjyoti Das

Slide set 35

- Contexts of testing -
  - **Testing can show the presence of bugs but never their absence**
  - **Good testing at the minimum is as difficult as good design**
- Goals of testing – Demonstration, Detection, Prevention
- Verification vs. Validation
- Terminology confusion – defect, bug, failure, issues
- Characterising testing – what are all the W

Slide set 36

- Categorization of testing
  - Function vs Structural
  - Static vs Dynamic (what kind is review ?)
  - Levels of testing – unit to acceptance
  - Technique types of testing – coverage vs fault based
  - Code based testing – control flow vs data flow
  - Manual vs automatic
  - Black , White vs Grey

Slide set 37

- Unit, component, integration, system, acceptance, regression – have a venn diagram kind of view
- What are the focus on unit testing
- What are the focus of integration testing – big bang is top down or bottom up ?
- What are the steps (process) in system testing ?
- System vs acceptance testing ?
- Alpha vs Beta testing
- List the different types of system testing (talked about 15 types)

Slide set 38

- Define the following types of system testing
- Smoke vs Sanity
- Regression
- Destructive
- Installation
- Usability
- Localization
- Boundary
- Start up shut down
- Security
- Compliance
- Cloud
- Performance (load vs stress vs recoverability)

Slide set 39

- Steps in Test Planning ?
- How do you decide the testing scope ?
- What is test adequacy criteria ? Why is it needed ? Give examples
- What is test strategy ? What it contains ? Testing in the small vs. testing in the large ?
- Testing models or mindset (evaluation vs demonstration vs. destruction vs preventive) ? Is any one of them sufficient ?
- Test bed, execution environment – give examples
- What is in test automation strategy ?
- Risk analysis and contingency plan – how are they related ?

Slide set 40

- In the test planning steps, when do the following things come ? What comes after or before (understand the sequence with reasons)
  - List of deliverables
  - Test schedule
  - Allocation of resources
  - Milestones
  - Risks identification
  - Measures and metrics

Slide set 41

- Typical Test Organization
  - The boss (director)
  - Reporting to director (architects, infrastructure teams and managers)
  - Managers – automation , test
  - Automation manager – development engineer
  - Test manager – analyst and testers
- Slide 5 (test process) – match the right side with the left side
- Slide 8,9,10 (test execution process) – understand the flow ?

Slide set 42

- What are the test case parameters ?
- Test cases provide the following values – which ones ?
- Three test case types ?
- Test case vs Test suite ?

Slide set 43

- Define software test metric
- Goals of software test metric
- Characteristics of software test metrics
- 2 types of test related measures – Program under test, Evaluation of tests performed
- What are the 3 types of PuT metrics ?
- What are the 2 types of program measurements ? Give 2 examples of each
- What are 2 types of defect density measurements ?
- 4 ways to do evaluation of tests performed ?
- Give examples of product measures, process measures, project progress measure
- All the metrics in slide 7,8 – MTBF vs failure rate, SLOC vs Fault Density vs discovery rate , defect distribution vs density vs leakage, Derect distribution vs. module specific density vs leakage

Slide set 43 continued

- Defect discovery rate vs removal cost
- Two destructive testing related metrics ?? Mutation , fault injection (difference?)
- Compare percent completed vs defect corrected vs removal effectiveness
- Think of each metric has cost of bad quality vs cost of good quality vs cost of quality – give examples
- What is software reliability – predictive vs assessment model (example of metrics of each type)
- Preventive model or mindset ? What is TDD then ?

Slide set 44

- Selenium IDE, RC, Wen Driver vs Grid (who does what) ? What are the shortcomings of selenium ?
- Junit – fixures, test suites, classes, test runners , examples of annotations in Junit code, advantage and short comings
- Apache JMeter – thread groups, samplers, listeners and configurations, understanding of advantage and short comings

Slide set 45

- Where does maintenance come in SDLC ? What are the two sub-blocks in Maintenance ?
- Compare the flow of SMLC and SDLC. What are the end delivery of SMLC ? Difference in patch and maintenance release, hot vs cold patch
- Factors behind maintenance cost
- Types of issues in maintenance

Slide set 46

- 4 quadrants of sw mainteance i.e. proactive vs reactive, correction vs enhancement – what do you call them ?
- Migration vs reengineering
- Re engineering vs reverse engineering