

# CMSC435 Software Engineering

## Quiz 04

Name:

1. We know Cobertura is used to calculate code coverage. How is code coverage report generated by instrumenting classes?

Cobertura works by inserting instrumentation instructions directly into compiled Java classes. When these instructions are encountered by the Java Virtual Machine, the inserted code increments various counters so that it is possible to tell which instructions have been encountered and which have not.

Instrumented Java classes can be tested using JUnit. An instrumented class serializes information into the file cobertura.ser. Any existing information found in this file will be merged with the current information. The instrumentation for several sessions of a running program can be merged together, producing a single coverage report.

Points are credited if some idea about instrumentation is explained.

2. 'Milestones' and 'Daily Builds' are techniques used to synchronize with other teams and stabilize the product as project proceeds. Discuss some of the benefits of 'Synch-and-Stabilize' approach.

Some of the benefits of 'Synch-and-Stabilize' approach are

1. It breaks down large products into manageable pieces – a prioritized set of features that small feature teams can create in a few months.
2. It enables projects to proceed systematically even when they cannot determine a complete and stable project design at the project's beginning.
3. It allows large teams to work like small teams by dividing work into pieces, proceeding in parallel but continuously synchronizing changes, stabilizing the product in increments, and continuously finding and fixing problems.
4. It facilitates competition on customer input, product features, and short development times by providing a mechanism to incorporate customer inputs, set priorities, complete the most important parts first, and change or cut less important features.
5. It allots a product team to be very responsive to events in the marketplace by "always" having a product ready to ship, having an accurate assessment of which features have been completed, and preserving process and product flexibility as well as opportunism throughout the lifecycle.

Points are credited even if 1 or 2 benefits are mentioned.