CMPSCI 521/621
Homework 0
Research Areas Definitions

Due: **Sept 6, 2012, 9:00 AM EDT** via [Moodle](#).[1] Late assignments will not be accepted without **prior** permission.

Define the following six terms. Each term is a field of research in software engineering.

1. static analysis

2. dynamic analysis

3. model checking

4. mutation testing

5. bug localization

6. symbolic execution

You are to submit a .pdf with six definitions. Each definition should be no longer than 75 words. Think of each term as a technique or a process and describe its inputs and outputs. For example, if you were to define "software engineering" you might say:

> *Software engineering is the process of developing software systems. It begins by eliciting requirements from, for example, system users and produces a software system that meets, or comes close to meeting, those requirements. The process may involve eliciting and formalizing requirements, designing the system architecture, developing prototypes, testing, implementation, validation, verification, and maintenance. Waterfall, spiral, and agile are example models of the process of software engineering.*

You may use any resource you wish in this assignment but you must list your collaborators and cite all your sources. Failure to do so will result in a grade of 0.

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[1]In the unlikely case that you cannot use Moodle, you may email only this assignment to brun@cs.umass.edu.