This survey is designed to evaluate your programming experience and your perceptions and use of testing and design practices.

What is your KU ID? __________________

Previous College Computer Science Courses (programming based)
How many college computer science courses have you taken at KU or elsewhere that contained a substantial computer programming component?
__ 0
__ 1
__ 2
__ 3
__ 4 or more

Previous Other Computer Science Courses (programming based)
How many non-college computer science courses have you taken that contained a substantial computer programming component?
__ none
__ 1 semester in high school
__ 2 semesters in high school
__ 3 or more semesters in high school
__ 1 semester or more elsewhere (short course or vocational school)

Previous Computer Programming Experience
Please rate your level of competence with the following programming languages?
Circle one number for each language/group of languages. Use the following scale:
   1. Never programmed in this language.
   3. Some experience. Wrote one or two small programs.
   4. Substantial experience. Wrote several small to medium-sized programs.
   5. Extensive experience. Wrote many programs.

C++        1    2    3    4    5
Java        1    2    3    4    5
Visual Basic       1    2    3    4    5
Python, Perl or other scripting based languages  1    2    3    4    5
JavaScript, html, ASP or other web based languages  1    2    3    4    5
Other, please specify ________________   1    2    3    4    5
**Time Since Last Programming**
When did you last write a computer program in the following language?
Circle one number for each language/group of languages. Use the following scale:
1. Never programmed in this language before.
2. Within last three months.
3. Four to twelve months ago.
4. One to three years ago.
5. More than three years ago.

- C++  1  2  3  4  5
- Java   1  2  3  4  5
- Visual Basic  1  2  3  4  5
- Python, Perl or other scripting based languages  1  2  3  4  5
- JavaScript, html, ASP or other web based languages  1  2  3  4  5
- Other, please specify ________________  1  2  3  4  5

**Attitude Towards Testing**
How important is it to test computer programs that you have written?
__ not important, I never make mistakes
__ not important, my projects are only for a grade in the class
__ somewhat important, so I do a little bit of testing
__ important; I try to test my programs if I still have time before the deadline
__ very important; a project is not done until it is thoroughly tested

**Test Timing**
When do you write tests for your programs?
__ never
__ after I think the entire program is complete
__ after I think an important portion of the program is complete (such as a class)
__ after I think a small portion of the program is complete (such as a single function)
__ before I have written any code
__ before I have written a new important portion of the program (such as a class), but after I have tested other code that is finished
__ before I have written a new small portion of the program (such as a single function), but after I have tested other code that is finished

**Automated Testing Use**
Do you ever write automated tests for your programs?
__ yes, all the time
__ yes, but only some of the time
__ yes, I tried it once
__ no, if I test, it is by hand (run program and look at output)
Automated Testing Frameworks
Have you ever used an automated testing framework like JUnit or CppUnit?
__ yes, I use an automated testing framework often
__ yes, I have used an automated testing framework before
__ no, I have never used an automated testing framework

Attitude Toward Design
How important is it to design computer programs before they are written?
__ not important, I just start programming and don’t think about the design
__ not important, I develop the design as I write the code
__ somewhat important, so I do a little bit of design before I start writing code
__ important; I try to design most of my programs before I start writing code
__ very important; I never start programming until I have a thorough design complete

Design Techniques
How do you design your programs?
__ I don’t design, I just write code
__ I use visual models like the UML or flowcharts
__ I sketch the design in the code with class declarations before writing any function definitions
__ I write out the design in natural language
__ I use a combination of visual models and natural language
__ I let the design evolve as I write the code; I document the design with visual models and/or natural language
__ I let the design evolve as I write the code; the code is the design documentation

Attitude Towards Test-First Programming
Test-first programming is the practice by which an automated test case is written before the code is implemented. The implemented code is written to pass the test case. The design of the system emerges as the programmer repeatedly writes tests, then writes the code to make the test pass, then improves both the code and tests in short rapid iterations.

What is your opinion of test-first programming?
__ I don’t think it would ever work
__ I think it might be a good approach on small projects
__ I think it might be a good approach on projects where programmers have a lot of programming experience
__ I think it might be a good approach on projects where programmers understand the domain well
__ I think it might be a good approach on any project
Attitude Towards Test-Last Programming
Test-last programming is the practice by which a test case is written after the code is implemented. The design of the system is usually developed at least partially before any code is written.

What is your opinion of test-last programming?
__ I don’t think it would ever work
__ I think it might be a good approach on small projects
__ I think it might be a good approach on projects where programmers have a lot of programming experience
__ I think it might be a good approach on projects where programmers understand the domain well
__ I think it might be a good approach on any project

Choosing Between Test-First and Test-Last Programming
If you had a choice of writing code with a test-first or test-last approach, which would you choose?
__ test-first
__ test-last

Why?

Age
How old are you today?
__ 18 to 22 years
__ 23 to 26 years
__ 27 to 35 years
__ over 35 years

Gender
What is your gender?
__ Male
__ Female

Race
Which category best fits your race?
__ White
__ African or African American
__ Asian
__ Hispanic
__ Other
Classification
How does the university currently classify you?
__ Freshman
__ Sophomore
__ Junior
__ Senior
__ Graduate
__ Other

Major
What is your major?
__ Computer Science
__ Computer Engineering
__ Electrical Engineering
__ Other: please specify _______________

Overall GPA
What is your overall GPA?
__ 3.5 – 4.0
__ 3.0 – 3.5
__ 2.5 – 3.0
__ 2.0 – 2.5
__ 1.5 – 2.0
__ 1.0 – 1.5
__ below 1.0

Major GPA
What is your GPA in your major?
__ 3.5 – 4.0
__ 3.0 – 3.5
__ 2.5 – 3.0
__ 2.0 – 2.5
__ 1.5 – 2.0
__ 1.0 – 1.5
__ below 1.0

Additional Comments
Is there anything else related to this study that you would like to comment on that we have missed or that you would like to add?