**Chapter 9, Functional Coverage homework**

The purpose of this homework is to expand your solution to Chap\_7\_Threads\_and\_Interprocess\_Communicaton/homework3 to collect coverage on the stimulus and stop the generation of new transactions when the coverage goal has been met.

Write coverage statements using covergroups for the following:

1. All opcodes have been executed, except BR, BRZ, and HALT.
2. The source for every opcode that has a source has been R0, R1, R2, and R3
3. The destination for every opcode that has a destination has been R0, R1, R2, and R3
4. Every opcode has been preceded and followed by every other instruction.
5. For opcodes that have both a source and destination, all permutations of source and destination have been executed.
6. All memory locations have been written.
7. All memory locations have been read by a RD instruction.

Your testbench will monitor the coverage and quit when these coverpoints have been covered. Use a callback to instruct the testbench to collect coverage.

Deliverables:

1. All of your code in tarred/zipped electronic format including scripts, project if used, etc.
2. Clear directions on running your solution
3. Copy of the covergroup window(s) proving that the required coverage has been obtained.