Suggestions for Completing Assignment 1

I recommend that you accomplish assignment 1 in stages. This means that you can implement a portion of the assignment and test it before proceeding to the next portion.

1. Read in the configuration and print the configuration out.

2. Read in the instructions, identify the type of the instruction, identify the registers that are set and used in each instruction, and print the instructions out.

3. Format the pipeline diagram report header lines and allow each instruction to proceed through the appropriate stages without regard to stalls.

4. Modify your pipeline algorithm to detect load−delay stalls.

5. Modify your pipeline algorithm to detect structural stalls.

6. Modify your pipeline algorithm to detect data hazard stalls.

7. Modify your pipeline algorithm to squash the FWB stage of a preceding instruction due to a WAW hazard.

8. Modify your pipeline to flush an instruction after a taken branch.

9. Modify your program to increment counters when events occur and produce the summary statistics at the end of the report.

I also recommend that you thoroughly test your solution. The sample input will be only one of many test cases that I will use when grading your assignment.