

Part 2

Due: December 4, 2018

Architectural simulation is widely used in computer architecture studies because it allows us to estimate the performance impact of new designs or collect various statistics of applications.

Usually a program's behavior changes on different phases. In this part of the project, you are asked to modify the simulator to collect the variation of IPC value of equake efficiently.

For the experiments, do not fast-forward the program and run the first 500 million instructions using the default configuration.

1. Show the variation of IPC value if the window size is 10 million cycles (collecting the IPC value for every 10 million cycles). Note: you should modify the simulator to get all the statistics in one run instead of running sim-outorder multiple times.
2. A tricky issue to monitor the change of program behavior is to determine the optimal window size. A too large window won't be able to identify the changes timely, while a too small window will have large overhead and might get unnecessary fluctuations. Use experiments to find the optimal monitor window size for this program. Hint: you can scale the window size up and down by a factor of 10 for fast identification.

Please include your experimental results and source code (the part that has been modified) in your report.

Hint: The major changes of your code would be in sim-outorder.c.