

## CS403 - Parallel Programming

### Lab 4 - Introduction to Valgrind

1. Download **Valgrind** and **kcachegrind** profiling tools. Please refer to the links given below for reference. Explore the links to understand about the commands on how to measure the memory leaks, cache misses and branch mispredictions.
2. For the attached CPP file, find out the Cache-misses and branch misses using the following commands:

```
$ g++ -g badprime.cpp -o badprime
$ valgrind --tool=cachegrind --log-file=cg.out ./badprime
$ valgrind --tool=cachegrind --log-file=cg.out ./badprime --branch-sim=yes
```
3. Explore **cg\_annotate** output using the following command for  
`cg_annotate <cachegrind.out.30350>`
4. Use **kcachegrind** to get the graphical interface for the output log files.  
`kcachegrind <cachegrind.out.30350>`

#### References:

<http://valgrind.org/docs/manual/cg-manual.html>  
<https://accu.org/index.php/journals/1886>  
<http://kcachegrind.sourceforge.net/html/Usage.html>