Johan van der Veen
W01067384
322 lab 1

1) How many CPUs are available on the computer to which you've logged on?
   There are 8 cpus available on this computer
2) What is the difference between L1d and L1i?
   Both L1d and L1i cache have 32K available. L1d cache is used for data and L1i cache is used for instructions
3) What is BogoMIPS, and how many BogoMIPS are available on your machine?
   BogoMIPS is used to measure how fast a cpu is "the number of millions of times per second a processor can do absolutely nothing". The computer I am using is currently running at 6784.16 BogoMIPS
4) How many caches are there, and what are their sizes?
   There are 4 caches. L1d/L1i use 32K, L2 uses 256K, L3 uses 8192K
5) How large is the cache for each CPU?
   Each cpu contains 8192 KB of cache
6) What is the address size of each processor?
   36 bits of physical and 48 bits of virtual
7) Explain (briefly, a few sentences at most) what the method benchmark does. Do NOT just write as your answers the comment lines provided in the code and image
   The benchmark method initializes 4 arrays with floating point values, It then checks the wall clock time and preforms 2 arithmetic operations a large amount of times and once done checks the time again to see how long it took. Returning the number of times of operations preformed / the amount of time it took aka operations per unit of time
8) What does the keyword struct stands for?
   Struct in C is basically the same as a class in Java it is used to package related data together.
9) Approximately how many floating point operations per second can your computer perform?
   This computer can preform about 350 million floating point operations per second.
10) Why might the number of FLOPS vary from one invocation of the program to another?
   During each running of the program the computer may be letting you use different amounts of processing power. For example one of the other users or programs running may be using more or less cpu power during each running.