

1. My laptop running Linux. Model name: Intel(R) Core(TM) i5-2410M CPU @ 2.30GHz

2.

Array Size	Performing src assignment?	App	Time with I then J	Time with J then I
2048	No	Java	0.27	0.82
		JavaInteger	0.47	1.48
		C	0.14	1.08
		Optimized C	0.05	1.04
2048	Yes	Java	0.33	1.68
		JavaInteger	12.27	17.52
		C	0.16	1.43
		Optimized C	0.1	1.39
4096	No	Java	0.71	2.06
		JavaInteger	0.95	2.87
		C	0.54	4.36
		Optimized C	0.24	4.15
4096	Yes	Java	0.82	2.32
		JavaInteger	206.71	309.13
		C	0.63	5.95
		Optimized C	0.35	5.90

3.

(1) cacheExperiment.java uses variables of type int while cacheExperimentInteger.java uses variables of type Integer.

(2) The times of Java and C in 2048-No (and also 4096-Yes and 4096-No), the time the Java program cost was much shorter than the C programs. This surprised me since in theory, Java should be slower than C when accessing two or more dimensional arrays when arrays are declared directly (not declared in the order of one dimension after another).

(3) This is a correct optimization, since the programs actually have no effective results. Running times of the programs given in the question are shown below:

Optimized?	Hello World	Sum
No	Very Long Time, Not Finished	Very Long Time, Not Finished
Yes	0	Very Long Time, Not Finished