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CSE 351
Lab 4
05/22/13

1. **The Test System**:
   lab Linux workstation
   model name: Intel(R) Core(TM) i7-3770 CPU @ 3.40GHz

2. **Test Results**:

Array Size	Performing `src` assignment?	App	Time with `i` then `j`	Time with `j` then `i`
2048	No	Java	0.200000	2.660000
		JavaInteger	0.210000	2.740000
		C	0.150000	1.260000
		Optimized C	0.050000	1.310000

Array Size	Performing `src` assignment?	App	Time with `i` then `j`	Time with `j` then `i`
2048	Yes	Java	0.130000	2.690000
		JavaInteger	18.270000	15.880000
		C	0.110000	0.800000
		Optimized C	0.050000	0.680000

Array Size	Performing `src` assignment?	App	Time with `i` then `j`	Time with `j` then `i`
4096	No	Java	0.500000	6.470000
		JavaInteger	0.910000	6.730000
		C	0.430000	3.060000
		Optimized C	0.110000	3.210000

Array Size	Performing `src` assignment?	App	Time with `i` then `j`	Time with `j` then `i`
4096	Yes	Java	0.580000	6.560000
		JavaInteger	143.480000	179.640000
		C	0.470000	3.600000
		Optimized C	0.220000	3.330000

3. **Q&A**

1. Java uses primitive int type while JavaInteger uses Integer Object.
2. The pair Java and JavaInteger with src assignment and size 4096 kind of surprised me since I've never thought that int and Integer will have that much different in performance.
3. When the output is not related to sum, it's correct optimization. It's still correct optimization when changing to printf("Sum is %d\n", sum) at the end. The optimization prints "Sum is 1" when size is even and prints "Sum is -1" when the size is odd, which is the correct optimization.