

Lab 12	David Yoo(gy24)	Apr, 9, 2022																	
File	Num	Sum	Java(ArraySum)	1	2	3	4	5											
5numbers.txt	5	150	1371	241524	449627	541637	583972	1149686											
1000numbers.txt	1000	50104	13111	320861	490617	530850	660166	1084061											
10000numbers.txt	10000	506090	122722	354937	490082	577815	686161	1113340											
100000numbers.txt	100000	5059169	970096	1104361	1350254	1260361	1485250	1396212											
1000000numbers.txt	1000000	50473230	2288682	2553587	7155769	8587456	18678775	20023380											
File	Num	Sum	Ada(ArraySum)	1	2	3	4	5											
5numbers.txt	5	150	0.000000975	0.000017867	0.000661138	0.000972828	0.000986691	0.000992574											
1000numbers.txt	1000	50104	0.000012095	0.000025319	0.000450078	0.000784949	0.000357692	0.001056436											
10000numbers.txt	10000	506090	0.000021415	0.000025144	0.000134233	0.00095065	0.0003325	0.000568517											
100000numbers.txt	100000	5059169	0.000218255	0.000201519	0.000352204	0.000342813	0.000598447	0.000569911											
1000000numbers.txt	1000000	50473230	0.002137787	0.001919502	0.00143752	0.000954711	0.001055313	0.0007898											
File	Num	Sum	Ruby(ArraySum)	1	2	3	4	5											
5numbers.txt	5	150	0.000000983	0.000004622	0.000289311	0.00032904	0.00040511	0.000522346											
1000numbers.txt	1000	50104	0.000020587	0.000030723	0.000299691	0.000349013	0.000514296	0.000460895											
10000numbers.txt	10000	506090	0.000220966	0.000243221	0.000432469	0.000556715	0.000669158	0.000711002											
100000numbers.txt	100000	5059169	0.00196553	0.002575368	0.002571443	0.002780596	0.002740139	0.002781983											
1000000numbers.txt	1000000	50473230	0.020885665	0.024403164	0.024812946	0.025394931	0.025959834	0.025777534											
Java																			
1. ThreadedArraySum is much greater than the ArraySum.																			
2. From the results, I can conclude that multiple threads have more execution time than a single thread. This is because the CPU can only push data through at a specific rate. And more threads don't make CPU go faster, it just adds extra work.																			
3. When you have more threads than what you actually need. Since it will just queue behind another.																			
4. JIT with 5 threads I got 14874797, and JVM with 5 threads I got 3464124. The difference is 11410673.																			
Ada																			
1. tasked_array_sum is higher than array_sum.																			
2. It generally goes higher. From the results, I can conclude that multiple threads have more execution time than a single thread. This is because the CPU can only push data through at a specific rate. And more threads don't make CPU go faster, it just adds extra work.																			
3. 1000000 numbers(2 threads), 1000numbers(4 threads)																			
4. Ada is faster. This is because java needs to run through JVM.																			
Ruby																			
1. threaded_array_sum is greater than the array_sum																			
2. It generally goes higher. From the results, I can conclude that multiple threads have more execution time than a single thread. This is because the CPU can only push data through at a specific rate. And more threads don't make CPU go faster, it just adds extra work.																			
3. Ada is faster.																			
4. Ruby uses lock. It uses lock to synchronize multiple threads.																			