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Project 04

1. What machine you ran this on

   I ran this on the school server over a vpn.

2. Show the 2 tables of performances for each array size and the corresponding speedups

   MULT

array size	non sim mult	sim mult	speed up
1	28.63	27.89	0.97
10	142.69	249.71	1.75
100	207.09	1252.18	6.05
1000	221.58	1805.37	8.15
10000	221.93	1841.99	8.3
100000	221.04	1437.53	6.5
500000	220.16	1419.68	6.45
1000000	212.79	800.35	3.76

   SUM

array size	non sim sum	sim sum	speed up
1	28.63	18.92	0.66
10	133.38	164.56	1.23
100	210.54	1112.69	5.28
1000	223.57	1789.57	8
10000	225.86	1844.36	8.17
100000	225.64	1798.92	7.97
500000	234.3	1698.46	7.25
1000000	232.53	1547	6.65

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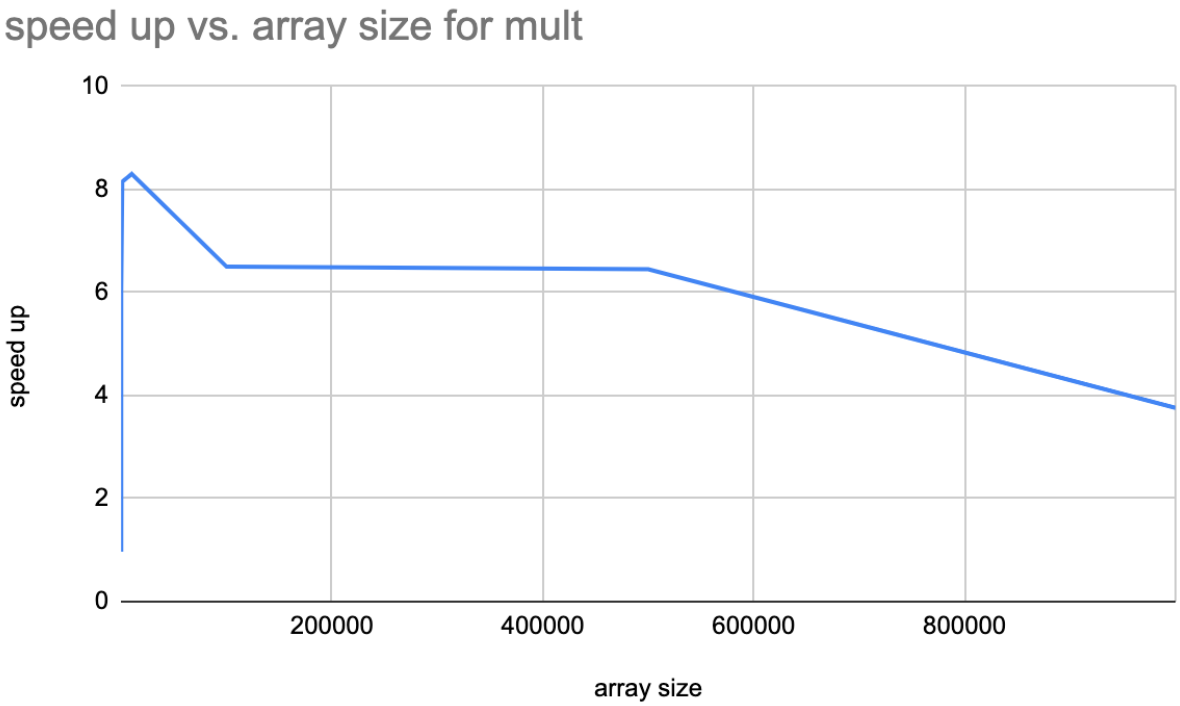
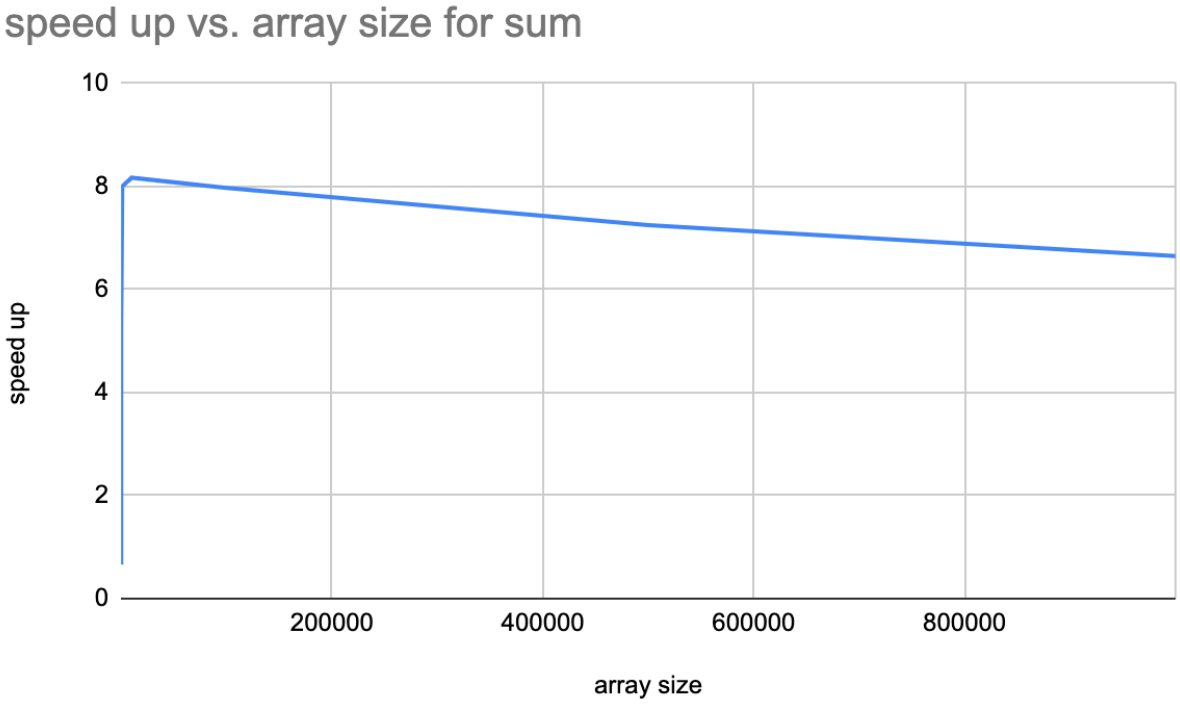
3. Show the graphs (or graph) of SIMD/non-SIMD speedup versus array size (either one graph with two curves, or two graphs each with one curve)





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4. What patterns are you seeing in the speedups?

   The larger the array size the less the speed up there is after a certain point. As the size increases the speed up decreases gradually.

5. Are they consistent across a variety of array sizes?

   Both tables seem to have a similar and consistent pattern.

6. Why or why not, do you think?

   I think this is because it can only speed up so much and there is a certain amount of that is “sweet spot” for both an array size of 10000 had the highest speed up and then after it started to decrease.