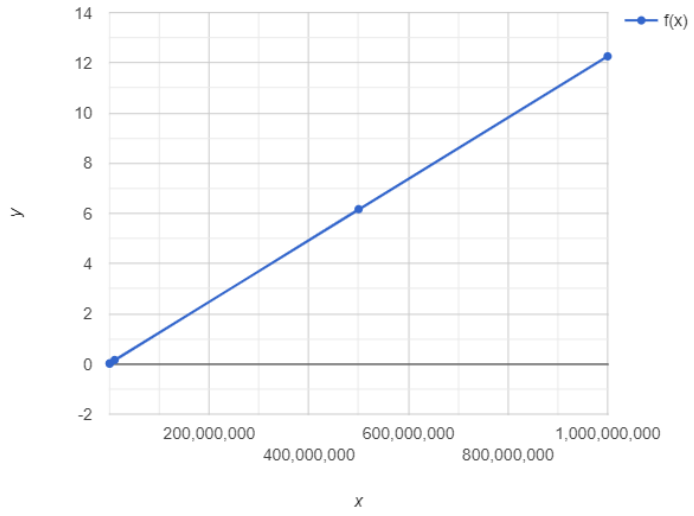
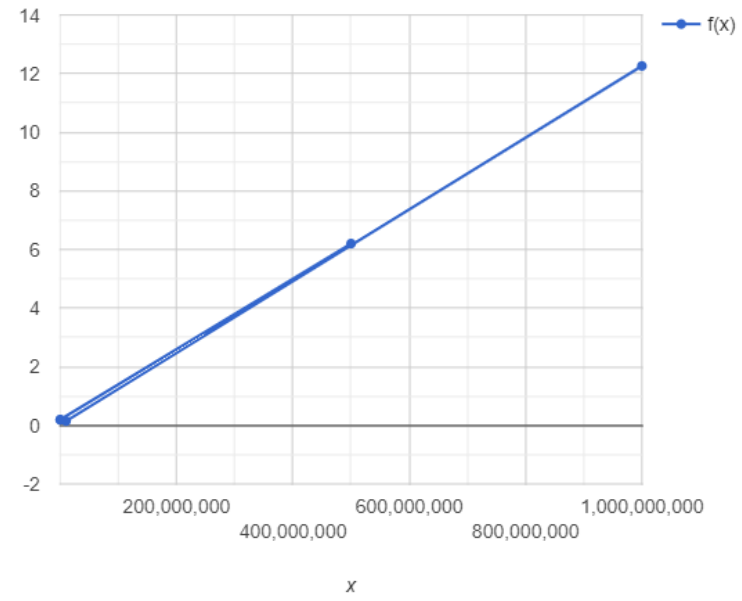
Aaron Occhipinti

A4

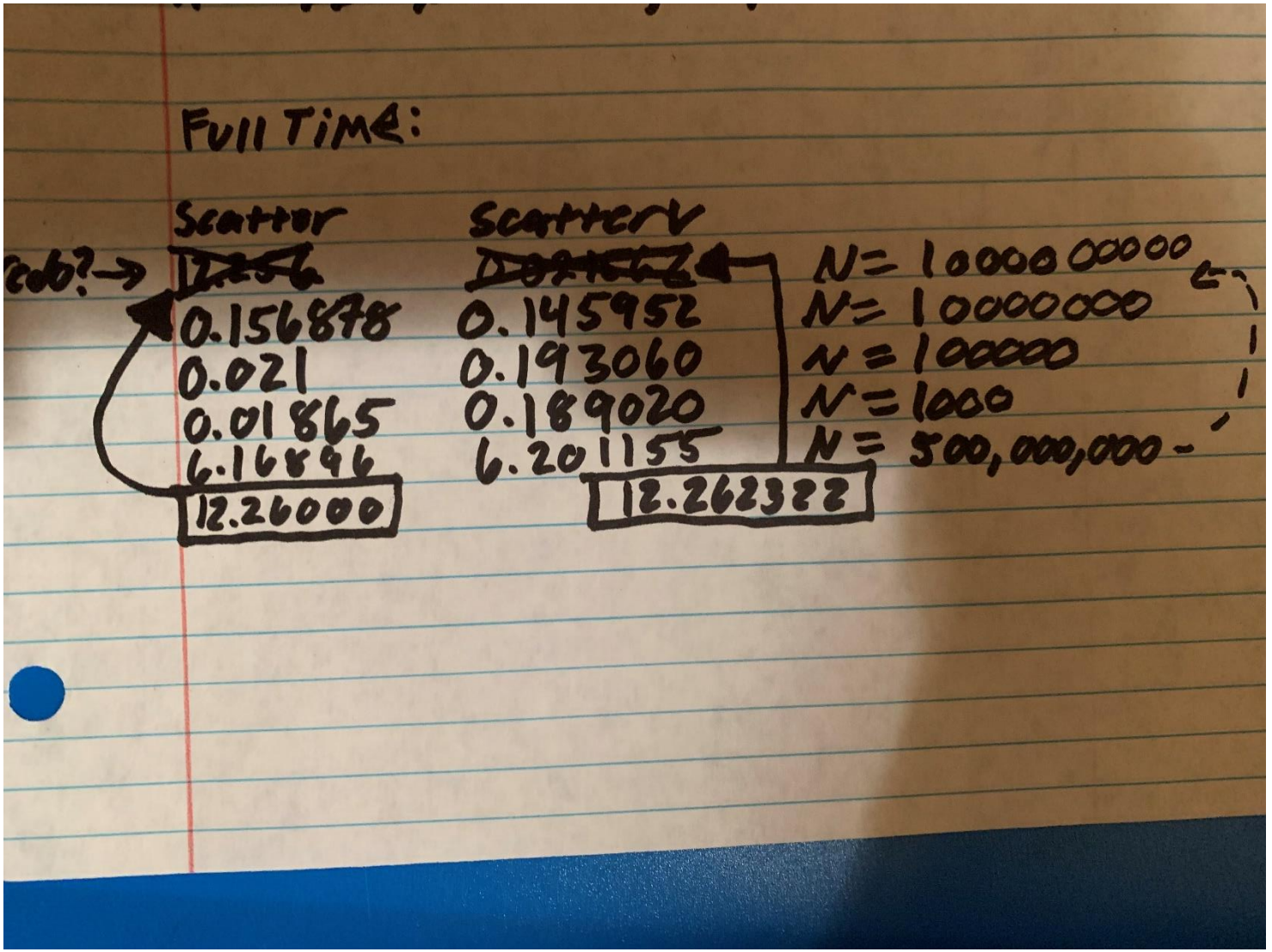
Scatter:

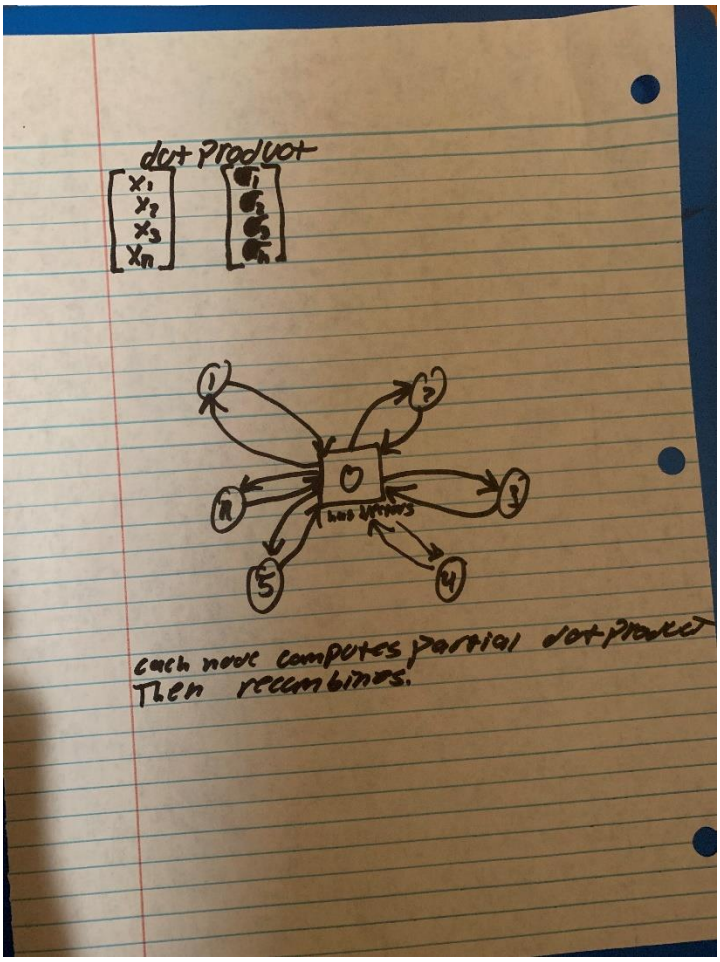


ScatterV:



Based on the timings collected it seems the two run similarly with very large values, the main difference I saw was that the scatter was much quicker with a very small N value, such as 1000. While scatterV took relatively the same amount of time for N = 1000 and N = 100000 whereas scatter saw much more time improvement with the same amount of shift to the N value. The main difference appears to be on the left side of the graph, left of the 50000000 N value dot, where you can see scatterV branches off higher than scatter left of that value.


Full Time:
Scatter
ScatterV
0.156878
0.021
0.018 65
6.16896
12.26000
0.145952
0.193060
0.189020
6.201155
12.262322
N = 10000 00000
N = 10000000
N = 100000
N = 1000
N = 500,000,000


dot product
x1
x2
x3
xn
w1
w2
w3
wn
1
2
0
n
3
two others
5
4
each node computes partial dot product
Then recombines.