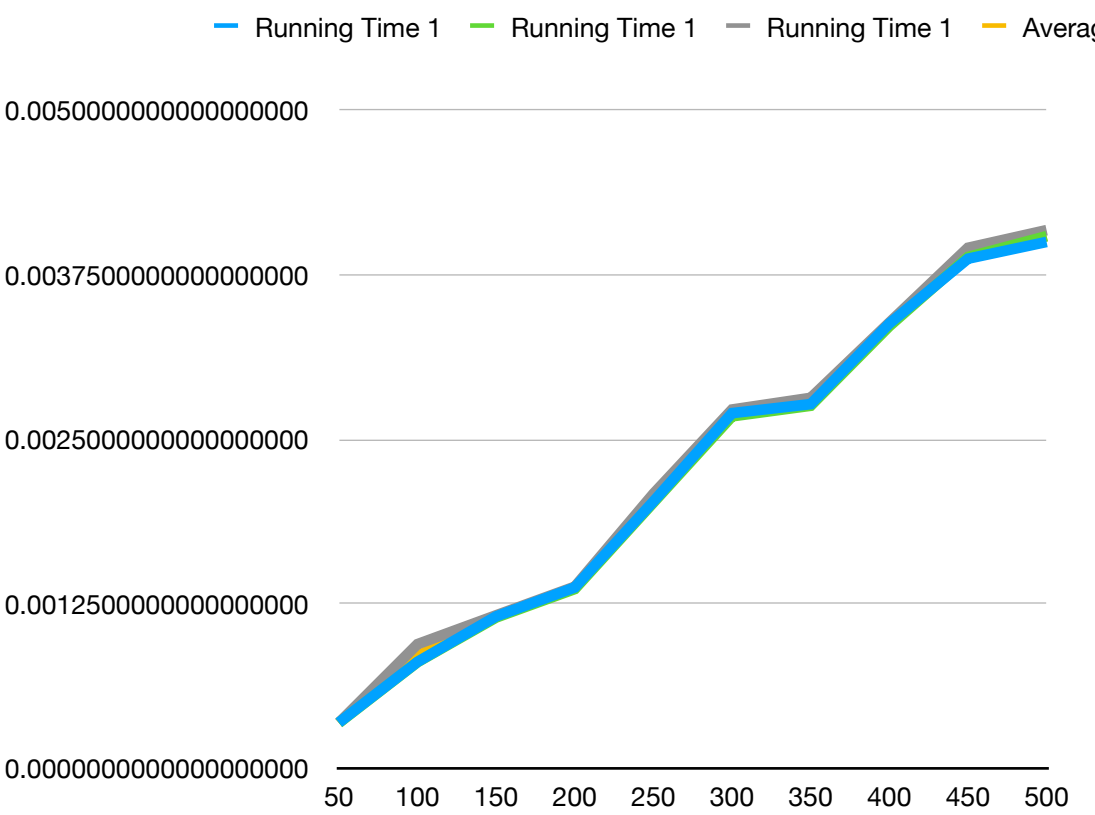
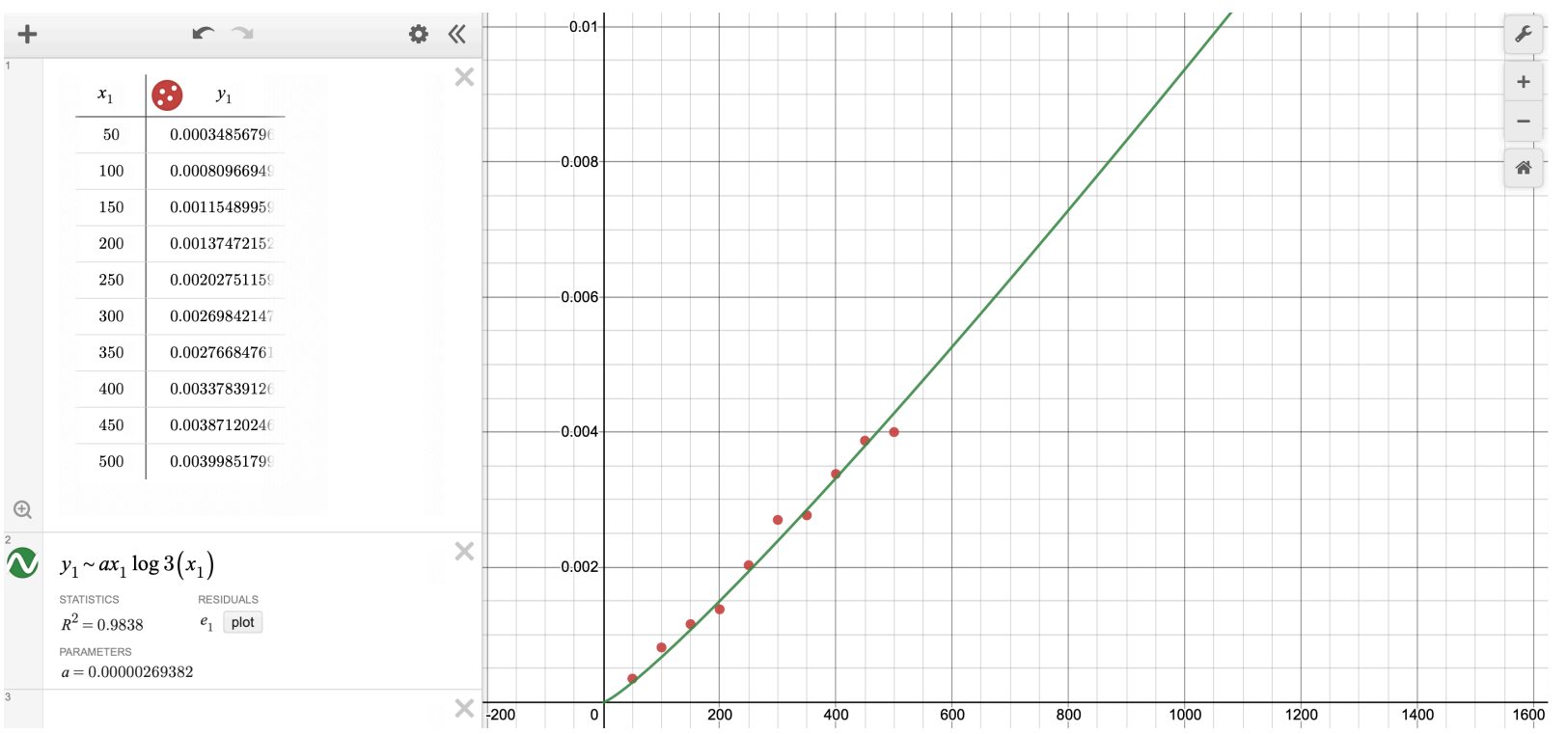
merge3Time.py

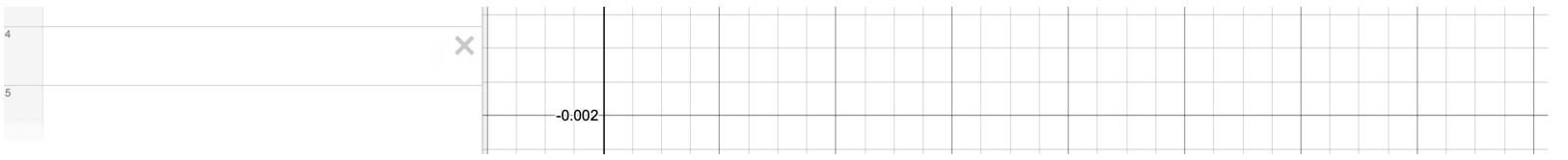
quantity of numbe	Running Time 1	Running Time 1	Running Time 1	Average
50	0.0003485679626464840	0.00034546852111816400	0.000347137451171875	0.000347057978312174
100	0.0008096694946289060	0.0008072853088378910	0.0009441375732421880	0.0008536974589029950
150	0.0011548995971679700	0.0011463165283203100	0.0011632442474365200	0.0011548201243082700
200	0.0013747215270996100	0.0013625621795654300	0.0013804435729980500	0.0013725757598877000
250	0.0020275115966796900	0.0020189285278320300	0.0020864009857177700	0.0020442803700765000
300	0.0026984214782714800	0.002674102783203130	0.002725839614868160	0.00269945462544759
350	0.002766847610473630	0.0027544498443603500	0.0028145313262939500	0.00277860959370931
400	0.0033783912658691400	0.0033583641052246100	0.0033860206604003900	0.0033742586771647100
450	0.0038712024688720700	0.003883838653564450	0.0039539337158203100	0.00390299161275228
500	0.003998517990112310	0.004042387008666990	0.004088163375854490	0.004043022791544600



a) Collect running times

According to the table, it is average case running time



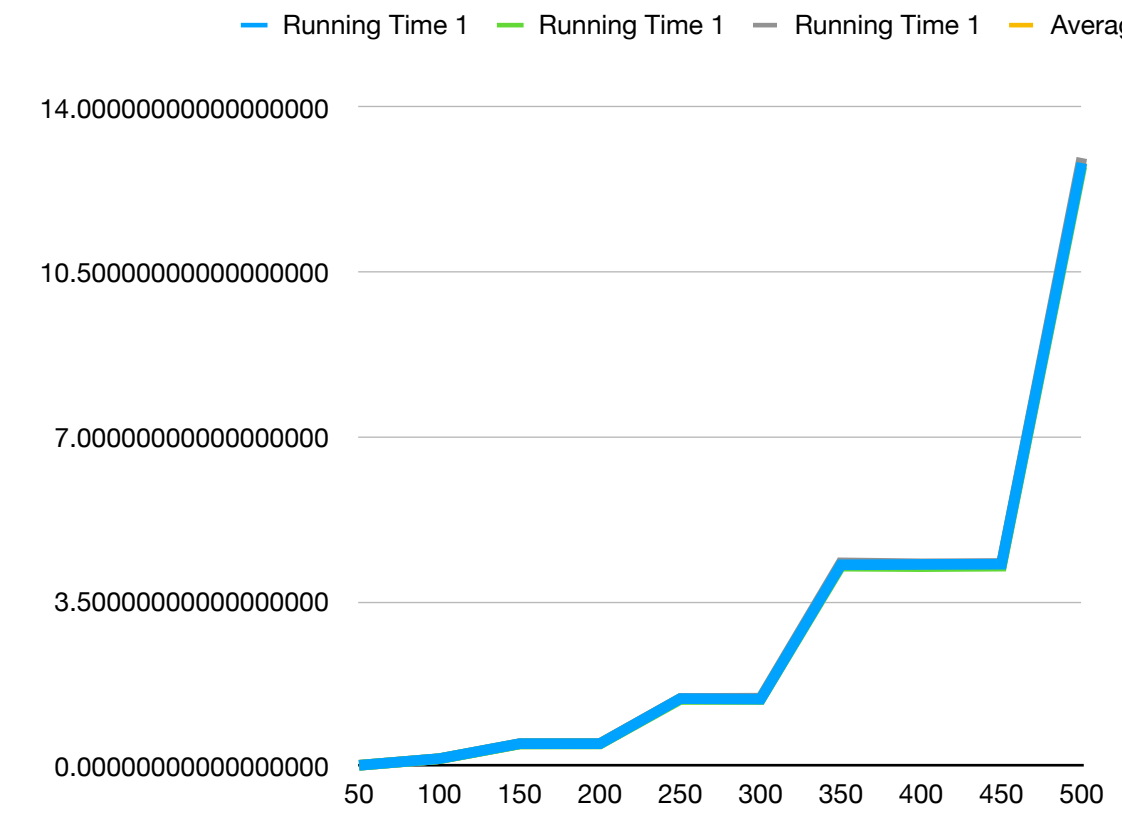


b) Plot data and fit a curve

the *y = 0.00000269382x1log3(x1)* fit the cure best. It is approximately close to the nlog3(n) cure.

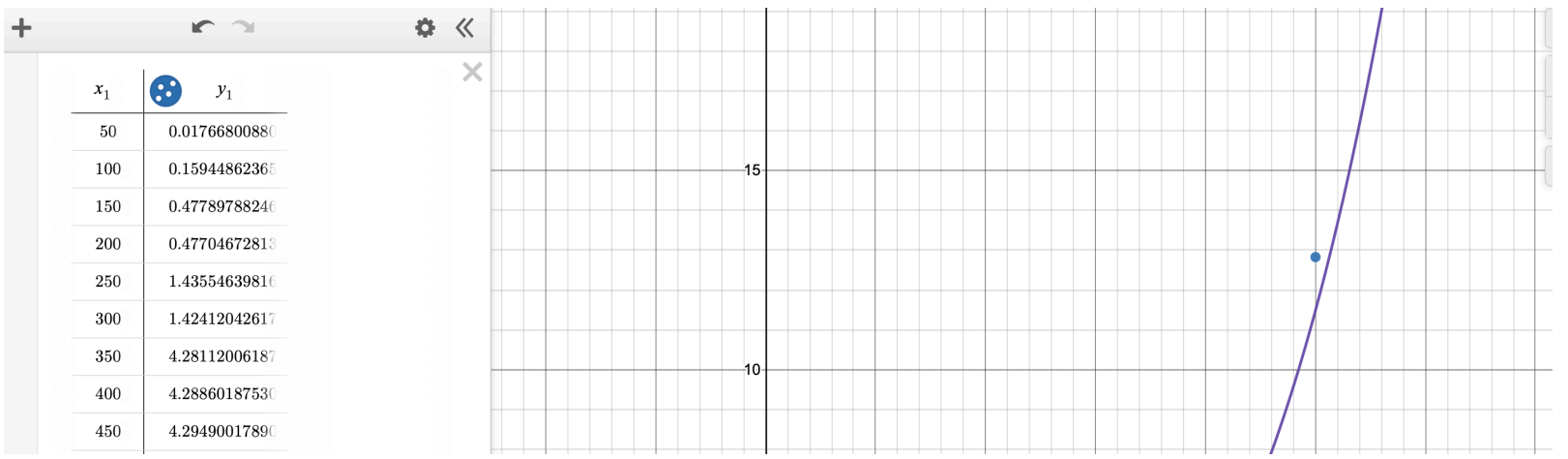
stoogeTime.py

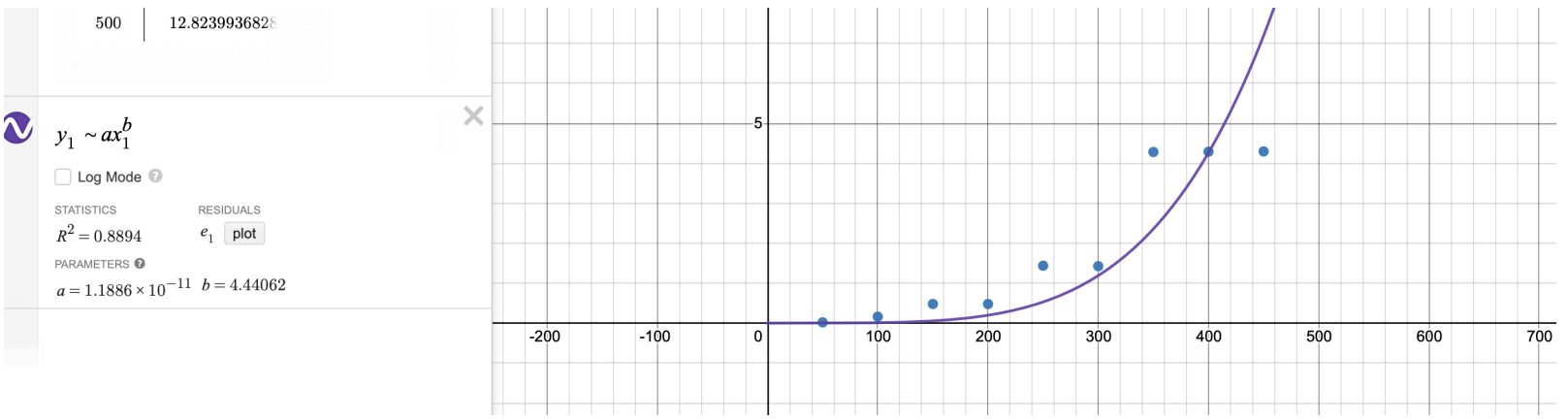
quantity of numbe	Running Time 1	Running Time 1	Running Time 1	Average
50	0.01766800880432130	0.01751089096069340	0.017921924591064500	0.017700274785359
100	0.15944862365722700	0.15662765502929700	0.15897607803344700	0.158350785573324
150	0.47789788246154800	0.47011780738830600	0.4770042896270750	0.475006659825643
200	0.4770467281341550	0.47185659408569300	0.48145341873168900	0.476785580317179
250	1.4355463981628400	1.4177632331848100	1.4380850791931200	1.430464903513590
300	1.4241204261779800	1.4171960353851300	1.4450669288635300	1.428794463475550
350	4.28112006187439	4.252057075500490	4.322722434997560	4.28529985745748
400	4.288601875305180	4.241883277893070	4.301515340805050	4.277333498001100
450	4.294900178909300	4.252224922180180	4.308975458145140	4.285366853078210
500	12.823993682861300	12.746970891952500	12.932717323303200	12.83456063270570



a) Collect running times

according to the table, it is average case running time





b) Plot data and fit a curve

the *y = 1.1886*10^-11 x 4.44062* fit the cure best. It is not perfectly approaching the n^2.7.