#2. We calculate our actual convergence (the one we see) from solving for C, as presented in the pa2.pdf. It is important to note that we have to take exponents because we are dealing with a semi-log plot with respect to y.

The results (which fluctuate due to round-off errors during each run and randn) from the convergence rates as seen in the plot project2_p2.pdf:

	Actual Convergence	Estimated Convergence	Absolute Error
Part a	0.163507109004739	0.160194943721546	0.003312165283193
Part b	0.100213219616205	0.090054802886093	0.010158416730111
Part c	0.672985781990521	0.669421487603304	0.003564294387217
Part d	0.022835456065869	1	0.977164543934131

Note that the script always produces the chart, but due to the aforementioned fluctuations, it would be near-impossible to replicate the results found in the plot. Thus the reason for posting them here.

Also, part c is especially as bad as we choose it to be. How good it is depends on how well we are in between to vectors.

#3. It is really hard to see the cubic nature of the plot due to how fast it actually converges!