

## Execution Time

Input Value	prog 1	prog 2	prog 3	prog 4	prog 5
4	66.06022	69.03006	4.371926	9.878827	90.44152
6	89.08629	118.0271	4.147012	11.90036	239.6015
10	158.7585	1107.331	4.308651	16.41754	1070.09
20	494.7073	1152506	4.284008	26.37239	8347.116
50	2575.005	Too Big	5.045988	57.61302	134046.2
100	10308.35	Too Big	5.245442	106.2321	1006389
200	43734.11	Too Big	6.044316	221.6637	8102364

prog 1:

Program 1 is probably  $N^2$  because it increases at that rate.

prog 2:

Program 2 is probably  $2^N$  because it follows approximately the same values when calculated with the input value

prog 3:

Program 3 is probably  $\log(N)$  since it clearly isn't constant and is significantly less than linear

prog 4:

Program 4 is linear since it increases linearly.

prog 5:

Program 5 is  $N^3$  since it takes more time than  $N^2$