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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