LINEAR SEARCH:

|  |  |  |  |
| --- | --- | --- | --- |
| n | **Count/n** | Count/n^2 | Count/n^3 |
| 10 | **1** | 1/10 | 1/100 |
| 100 | **1** | 1/100 | 1/10000 |
| 500 | **1** | 1/500 | 1/500\*500 |
| 1000 | **1** | 1/1000 | 1/1000\*1000 |

Order of growth = O(1) -best case

= O(N)-worst

SELECTION SORT:

|  |  |  |  |
| --- | --- | --- | --- |
| n | Count/n | **Count/n^2** | Count/n^3 |
| (no of comparison=45)  10 | 4.5 | **0.45** | 0.045 |
| (No=5044)  100 | 50.44 | **0.5044** | 0.005044 |
| (n0=124750)  500 | 249.5 | **0.499** | 0.000998 |
| (no=499500)  1000 | 499.5 | **0.4995** | 0.0004995 |

Order of growth = theta(n^2)

TOWER OF HANOI

|  |  |  |  |
| --- | --- | --- | --- |
| n | Count/n | Count/n^2 | **Count/2^n** |
| 10 (n=1023) | 102.3 | 10.23 | **0.999** |
| 100 | 1.267 | 1.267 | **0.999** |
| 500 | 6.57 | 3.27 | **0.999** |
| 1000 | 1.0715 | 1.07 | **0.999** |

Order of growth = theta(2^n)