

Size	Linear	Binary	Hash
1000	7.8800	0.00017	0.00007900
2000	16.3980	0.0001906	0.00007707
3000	23.4322	0.0002049	0.00008175
4000	29.1357	0.0002253	0.00007674
5000	36.6925	0.000212	0.00007639
6000	45.8651	0.0002201	0.00007798
7000	53.3124	0.0002213	0.00008090
8000	57.2684	0.0002243	0.00007889
9000	60.9998	0.000239	0.00008093
10000	63.6017	0.0002363	0.00008208
11000	64.8027	0.0002353	0.00008553
12000	65.8958	0.0002547	0.00008923
13000	104.9000	0.0002458	0.00008451
14000	111.4000	0.0002482	0.00009010
15000	119.2000	0.0002619	0.00009119
16000	147.6000	0.0002655	0.00009064
17000	131.3000	0.0002716	0.00008644
18000	138.1000	0.0002589	0.00009313
19000	145.2000	0.0002561	0.00009573
20000	152.3000	0.0002629	0.00009380

The linear search shows a linear relationship with data size, as indicated by its equation $y = 0.0079x - 4.3076$ and an R^2 value of 0.9562. This implies that the time taken increases proportionally with input size, consistent with a linear time complexity. Binary search follows a logarithmic curve with the equation $y = 3E-05\ln(x) - 5E-05$ and an R^2 of 0.9284, indicating a logarithmic growth pattern. This supports the mathematical model where operations reduce the input size exponentially. Hash table search displays an almost flat trend with $y = 1E-09x + 7E-05$, and although the R^2 is lower at 0.8337, the extremely small slope reflects near-constant time behavior.

