

# Time Complexity

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Hey Everyone, This topic has only Multiple Choice Questions

Please try it once by yourself then see the solutions.

Basic Primer	
<a href="#">LOOP_CMPL</a>	Option C: $O(N + M)$ time, $O(1)$ space
<a href="#">NESTED_CMPL</a>	Option A: $O(N * N)$ time, $O(1)$ space
<a href="#">NESTED_CMPL2</a>	Option D: $O(N*N)$
<a href="#">CHOOSE4</a>	Option B: X will always be a better choice for large inputs

Math	
<a href="#">WHILE_CMPL</a>	Option D: $O(\log N)$
<a href="#">NESTED_CMPL3</a>	Option D: $O(N)$
<a href="#">LOOP_CMPL2</a>	Option B: $\Theta(n \log n)$
<a href="#">GCD_CMPL</a>	Option A: $\Theta(\log n)$

Compare Functions	
<a href="#">CHOOSE1</a>	Option C: $n^3 / (\sqrt{n})$
<a href="#">CHOOSE3</a>	Option C: for( $i = 1$ ; $i < n$ ; $i *= 2$ )
<a href="#">CHOOSE2</a>	Option A: $f_3, f_2, f_4, f_1$

## Function Calling Itself

<a href="#">REC_CMPL1</a>	Option D: $O(N)$
<a href="#">REC_CMPL2</a>	Option A: $O(2^{(R + C)})$
<a href="#">REC_CMPL3</a>	Option B: $O(R * C)$

## Amortized Complexity

<a href="#">AMORTIZED1</a>	Option A: $O(n)$
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