

$O(2^N)$

Code Example

This code creates a fibonacci sequence, and returns the value at the nth value of the sequence. The code that makes this a Power of 2 Complexity is line 4 of the fibonacci function - note the fibonacci is called twice.

```
1  function fibonacci(n) {  
2      return n <= 1 ? 0  
3          : n <= 2 ? 1  
4          : fibonacci(n - 1) + fibonacci(n - 2);  
5  }  
6
```

$O(N!)$

Factorial Complexity