

# $O(N!)$

The big idea:

Factorial Complexity occurs when every possible solution to a problem may have to be calculated for the correct output to be determined. An example of this would be a brute force solution to the traveling salesperson problem - where the shortest possible route between a series of locations has to be determined.

If 1 item takes 1 second to process, 100 items will take an extremely long time to be processed