**Big O (cover 3 days max)**

1. Time complexity:

\_O(s): s is size of the file: The bigger the file => the more time needed to transfer it

\_ O(1): As size of the file increases, it won’t take any longer to transfer the file

\_Only considered Worst Case

Space complexity:

\_Creating an array takes O(n) space

\_Create a 2-dimiensional array of size n x n, it’s O(n^2) space

Drop the constants & the non-dominant term:

+) O(2N) or whatever => O(N)

+) O(N^2 + N) => O(N^2)

Best to worst runtime:

O(x!) > O(2^x) > O(x^2) > O(x log x) > O(x) > O(log x)

Q: Amortized time?

A: If you do an operation say a million times, you don't really care about the worst-case or the best-case of that operation - what you care about is how much time is taken in total when you repeat the operation a million times.

ArrayList (dynamically resizing array): allows u to have benefits of an array while offering flexibility in size