Analyzing running times

To analyze the running time of an algorithm, we have to know what we are counting, and what we mean.

First of all, we usually want to analyze the **worst case** running time.

This means an upper bound on the total running time for the operation, usually expressed as a function of its input **size**.

(For example, the size of a graph could be $n + m$, where n is the number of vertices and m is the number of edges.)