Insertion Sort

Best case

Worst case
Growth of Functions

- It is hard to compute the actual running time.
- The cost of the worst-case is a good measure.
- The *growth* of the function is what interests us (Big Data).
- We are more concerned with comparing two functions, i.e., two algorithms.
Growth of Functions
\[ 0 \leq f(n) \leq cg(n) \]
\[ n \geq n_0 \]
\[ c > 0 \]
\[ n_0 > 0 \]

\( g(n) \) is an asymptotic upper bound for \( f(n) \)