Exercise 1. Arrange the following functions in increasing order of growth: $n^\log n$, $(\log n)^n$, $2^n$, $2^{2^n}$, $2^{n^2}$, $n!$, $1.01^n$, $50^n$, $2^{n/2}$, $2^{\sqrt{n}}$.

Exercise 2. Show that VERTEX COVER can be solved in polynomial time for graphs of maximum degree at most 2.

Exercise 3. A vertex cover $C$ of a graph $G$ is minimal if no strict subset of $C$ is a vertex cover. Show that each graph has at most $2^k$ minimal vertex covers of size at most $k$. Furthermore, show that given $G$ and $k$, all minimal vertex covers of $G$ of size at most $k$ can be enumerated in $2^k n^{O(1)}$ time.