Exercise 3.1  
(a) Devise a default theory $T = (W, D)$ that has three extensions.
(b) Devise a set of additional defaults $D'$ such that $T' = (W, D \cup D')$ has less extensions than $T$.
(c) Devise a set of additional facts $W'$ such that $T'' = (W \cup W', D)$ has less extensions than $T$.

Exercise 3.2  Prove Theorem 3.13 (Consistency preservation), i.e. show that the following holds:
A default theory $T = (W, D)$ has an inconsistent extension iff $W$ is inconsistent.

Exercise 3.3  Prove or refute the following claim:
Let $E$ be an extension of the default theory $T = (W, D)$. Then $E$ is also an extension of $T' = (W \cup W', D)$ for every subset $W'$ of $E$.

Exercise 3.4  Give an example which demonstrates that expanding a set of normal defaults by adding normal defaults may increase the number of extensions.

Exercise 3.5  A class $C$ is called representationally complete iff the following property is satisfied: For every default theory $T$ there is a default theory $T'$ in $C$ such that $T$ and $T'$ have the same extensions. Show that the class of normal default theories in not representationally complete.

Hint: Consider a default theory $T$ with two extensions $E$ and $F$ such that $E \cup F$ is consistent.