Exercise 1:
Prove Theorem 5.2 of the lecture.

Exercise 2:
Disprove that $C^* \setminus C = \{W \not\in C \mid C \vdash W\}$.

Exercise 3:

a) Develop an algorithm for the computation of all prime clauses for a given monotone function $f \in B_n$.

b) Is it possible that a prime clause contains more than one variable of a prime implicant? Prove your answer.

Exercise 4:
The disjunction of all prime implicants of a function $f \in M_n$ is the $P$-DNF representation of $f$. The conjunction of all prime clauses is the $P$-CNF representation of $f$.

a) Develop an algorithm which given the P-CNF representation of $f \in M_n$ computes the P-DNF representation of $f$.

b) For $f \in M_n$ show that the P-DNF- and also the P-CNF representations are unique.