Homework #4

Question 1 (10 marks)

Provide a polynomial algorithm for the *necessary winner problem* for the plurality rule.

Question 2 (10 marks)

What is the best upper bound for the compilation complexity of k-approval you are able to provide? Justify your answer.

Question 3 (10 marks)

A *weak Condorcet winner* is a candidate that will win or draw against any other candidate in a pairwise majority contest. Show that a weak Condorcet winner always exists when voters express their preferences using the *language of single goals* introduced in the lecture on voting in combinatorial domains.