

Exercises 4

1. In our examples with only one OD-pair, the Frank-Wolfe algorithm found the optimal solution in one iteration.

Check if this is true in general, i.e. check if the following statement holds:

of OD pairs = 1 \Rightarrow Frank Wolfe finds the optimal solution in 1 iteration

2. What changes in the first part of the Frank-Wolfe algorithm when there are capacity constraints on the arcs, i.e. arcs have a maximum capacity and every feasible flow x must fulfill $x_a \leq u_a$?
3. Show that the Capacitated Shortest Path Problem can be solved in pseudopolynomial time.