Philippe WS CSC 349

Lab 9

Diagram

Description automatically generatedProblem 4

Problem 6

1. The range is 100 ≤ f(s\*) ≤ 200.
2. The definition of 2-approximation for a maximization problem, we have the inequality ≤ 2. Thus,  
   0  
     
   We also know that some optimal solution should be no worse than the approximation, thus from the former inequality, we can generate the range of 100 ≤ f(s\*) ≤ 200.

Problem 7

1. The range is 50 ≤ f(s\*) ≤ 100.
2. The definition of 2-approximation for a minimization problem, we have the inequality ≤ 2. Thus,  
   .  
     
   We also know that some optimal solution should be no worse than the approximation, thus from the former inequality, we can generate the range of 50 ≤ f(s\*) ≤ 100.

Problem 8

