

DECISION AID METHODOLOGIES IN TRANSPORTATION

Lecture 7: Wrap-up

Chen Jiang Hang

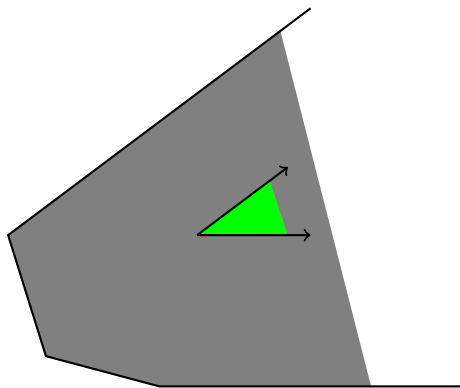
Transport and Mobility Laboratory

May 23, 2014



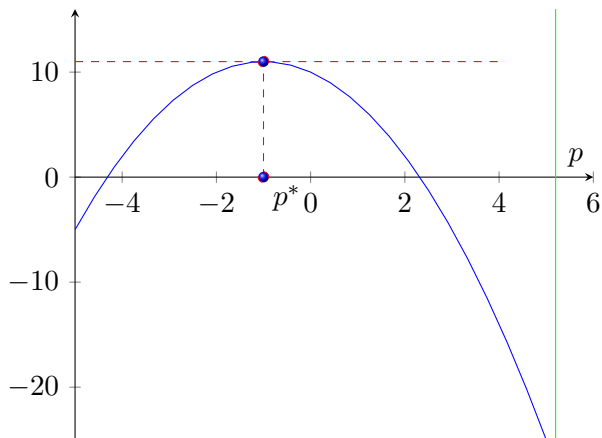
ÉCOLE POLYTECHNIQUE
FÉDÉRALE DE LAUSANNE

Polyhedron & Simplex

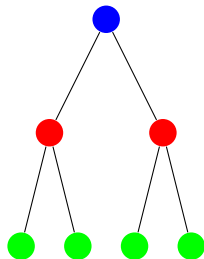
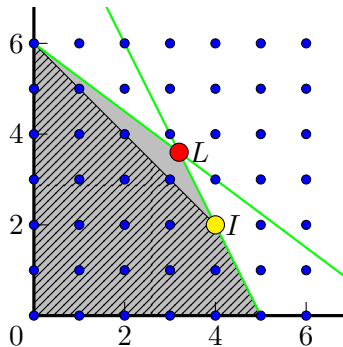


Key words: Convexity, Extreme point (ray), Resolution theorem, Reduced cost

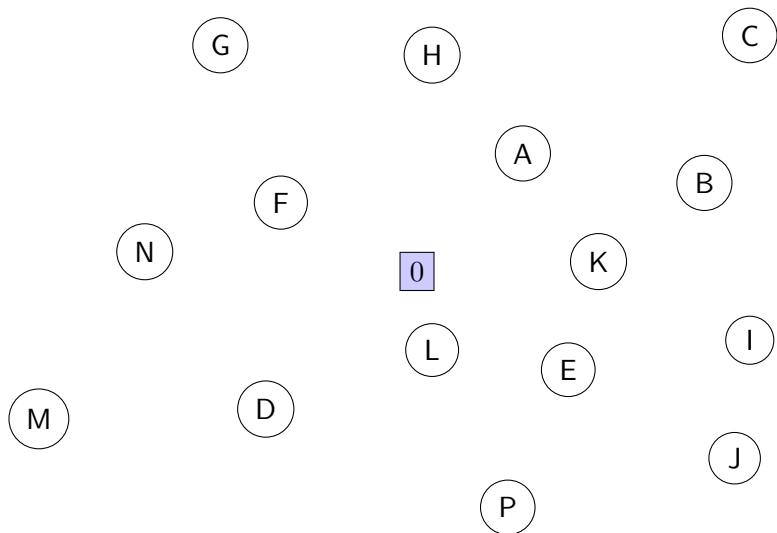
Primal & Dual



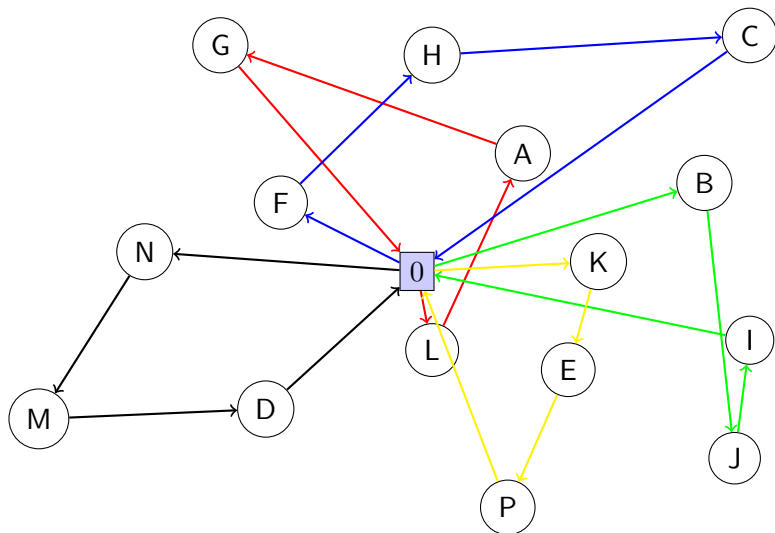
Cutting plan & Branch-and-bound



Network & Heuristics



Network & Heuristics



About Cplex you have learnt in this course

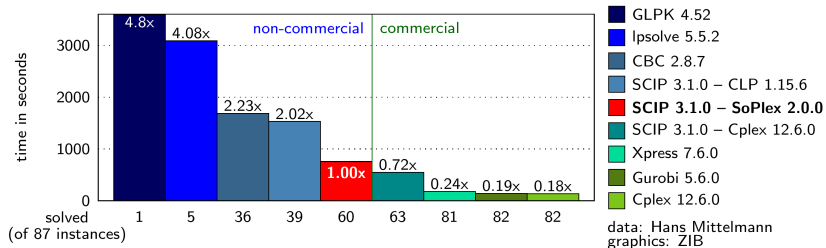


Figure from: SCIP website

About Cplex you have learnt in this course

Job Description

Ascend Learning, LLC (www.ascendlearning.com) is a leading provider of technology-based educational, curriculum and assessment solutions for the healthcare industry and other vocational fields. Ascend is renowned for delivering solutions that result in higher-performing student results at a lower cost, from nursing to allied health and fitness training to OSHA compliance training and insurance. Ascend employs more than 900 employees in 35 states. Customers range from schools of nursing to institutions of higher education, corporate health and wellness organizations and major Fortune 500 insurance companies

Position Summary:

The Operations Research Analyst / Optimization Expert you will analyze requirement and preference data for a wide range of time-tabling problems for producing didactic and clinical schedules for schools and health care organizations. Develop modeling and measuring techniques; employ mathematics, statistical methods, engineering methods, operations research techniques and other principles of mathematics and computer science. Analyze complex technical problems and provides solutions which are innovative and practical. Typically should have an advanced degree in Operations Research/Industrial Engineering/Applied Mathematics with a minimum of 2 years related experience. Experience with modeling languages like OPL-Studio, AMPL or GAMS is required, and some familiarity with OPL/CPLEX is strongly preferred. Some familiarity with using SQL to retrieve and manipulate data is also an advantage.

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Job Description

Senior Operations Research Analyst-00RGO

Description

What happens when you combine technology with travel? Sabre! Did you know that cutting-edge technology is used at Sabre by more than 1 billion people around the globe? Did you know that Sabre processes approximately 85,000 transactions per second for the largest industry in the world - travel and tourism? Now that we have your attention, Sabre is an innovative technology company that leads the travel industry by helping our customers (and employees) succeed. We are looking for forward-thinking, creative people who take ownership of results and make things happen. If this sounds like you, consider joining our team.

Required Skills:

The Research Group is seeking an analyst to develop large scale optimization models for travel distribution and airline planning. We require a PhD in Operations Research or Applied Mathematics, with a strong background in linear/ integer/ nonlinear/ dynamic programming and optimization modeling. A good knowledge of stochastic processes and simulation is a plus. Solid programming experience is required, especially with C/C++, Java, **LOG/CPLEX**. The position requires strong communication skills, both to document the models developed and explain the ideas to marketing and product development staff.