Indian Institute of Science

Linear and non-linear programming-1

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Midterm exam, Spring 2018

Late submission policy: Points scored = Correct points scored $\times e^{-d}$, d = # days late

Assigned date: March. 30th 2018   **Due date:** April. 13th 2018 in class

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Note:

- There are 10 problems and the total number of points is 100.
- Book by David Luenberger and Yinyu Ye (DY) and book by Dimitris Bertsimas (DB)

Solve the following problems:

  (a) Chapter 2: problem # 4 in DY.
  (b) Chapter 1: problem # 1.4 in DB.
  (c) Chapter 3: problem # 2 and 12 in DY.
  (d) Chapter 4: problem # 3 and 16 in DY.
  (e) Chapter 4: problem # 4.44 in DB.
  (f) Chapter 5: problem # 1 [1] and 5 in DY.
  (g) Develop a software code for the ellipsoid method. Pick up a simple LP problem involving 3 variables of your choice and show the solution steps. Sketch the trajectory to the optimal solution.

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[1] Please refer to Klee-Minty example (page number 135 of DY)