

CDS 270 (Fall 09) - Assignment 1

1. Download LPExample.mat from the course website,
<http://www.cds.caltech.edu/~utopcu/VerInCtrl/VerInCtrl.html>.
2. Load LPExample.mat. You should have a matrix A and a vector b .
3. Solve the following l_1 minimization problem and examine the solution, x (it should have a special structure).

$$\begin{aligned} \min \sum_{i=1}^n |x_i| \\ \text{s.t. } Ax = b. \end{aligned}$$

4. Now, try to solve the following problem:

$$\begin{aligned} \min \sum_{i=1}^n |x_i|^2 \\ \text{s.t. } Ax = b. \end{aligned}$$