

6.251/15.081J Recitation 3

1 Examples

Example 1.1. All parts below refer to the following standard form tableau.

	x_1	x_2	x_3	x_4	x_5
40	$-4/3$	$-2/3$	0	$5/3$	0
8	$1/3$	$2/3$	1	$1/3$	0
2	$2/3$	$1/3$	0	$-1/3$	1

- (a) Write a description of the feasible set.
- (b) Assuming x_4 and x_5 are nonnegative slack variables *added* to the two equality constraints, respectively, write down the original problem formulation.
- (c) Solve using the simplex method.
- (d) Write down the set of all solutions.

Example 1.2. [1], exercise 3.33.

Example 1.3. [1], exercise 3.18.

Example 1.4. [1], exercise 3.19.

References

- [1] Bertsimas, D.; Tsitsiklis, J.N. *Introduction to Linear Optimization*. Athena Scientific, 1997.
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