



Bookmarks

▸ General Information

▸ Week 1

▸ Week 2

▸ Week 3

▸ Week 4

▼ Week 5

LectureLecture questions due Oct 11,
2016 at 19:30 IST**Recitation****Problem Set 5**Homework 5 due Oct 11, 2016 at
19:30 IST

Week 5 > Lecture > Cost Coefficient 2 Exercise



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Cost Coefficient 2 Exercise

(1/1 point)

Suppose that there is a unique optimal solution (x^*, y^*) and the cost coefficients are modified, perhaps by more than a little bit. Which of the following can happen?" Select all that are possible

☒ The solution (x^*, y^*) remains a unique optimal solution ✓☒ The solution (x^*, y^*) remains optimal, but there are multiple optimal solutions ✓☒ A solution other than (x^*, y^*) is the unique optimal solution ✓☐ There is no feasible solution

EXPLANATION

Solution

The correct answer is:

The solution (x^*, y^*) can remain a unique optimal solution. This situation occurs, for example, if the change in the costs is very small.

The solution (x^*, y^*) remains optimal, but there are multiple optimal solutions. This situation can occur if the change in the costs is "just right." For example, if the cost function changed to ‘‘ $z = 2R + 2G$ ’’, then the solutions (5, 3) and (2, 6) are both optimal, as are all of the solutions on the edge joining these two points.

A solution other than (x^*, y^*) is the unique optimal solution. This situation can happen if, for example, one cost coefficient changes a lot. If the objective were ‘‘ $z = .1R + 2G$ ’’, the optimum solution would be (2, 6).

You have used 1 of 2 submissions

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