Course outline

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Cases)

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Big - M Method - I

Big M Method -II (Special

Two Phase Method -I

Two Phase method - II

O Quiz: Assignment 10

How to access the portal?

Unit 11 - Week 10

an unique solution no feasible solution

 $Max. Z = 4x_1 + 3x_2$ subject to $x_1 + x_2 \le 50$ $x_1 + 2x_2 \ge 80$ $3x_1 + 2x_2 \ge 140$, $x_1, x_2 \ge 0$ has

unbounded solution

No, the answer is incorrect.

Min. $Z = x_1 + x_2$

 $x_1 + 7x_2 \ge 7$

 $x_1, x_2 \ge 0$

is

Score: 0

subject to $2x_1 + x_2 \ge 4$

 $x_1 = \frac{21}{13}, \ x_2 = \frac{10}{13}, \ Z = \frac{31}{13}$

 $x_1 = \frac{21}{13}, \ x_2 = \frac{10}{13}, \ Z = \frac{-31}{13}$

 $x_1 = \frac{10}{13}, \ x_2 = \frac{21}{13}, \ Z = \frac{31}{13}$

 $x_1 = \frac{10}{13}, \ x_2 = \frac{21}{13}, \ Z = \frac{-31}{13}$

No, the answer is incorrect.

 $x_1 = \frac{21}{13}, \ x_2 = \frac{10}{13}, \ Z = \frac{31}{13}$

 $2x_1 + x_2 + 5x_3 = 20$

 $x_1, x_2, x_3, x_4 \geq 0$

No, the answer is incorrect.

 $Max. Z = 3x_1 + 5x_2$ subject to $x_1 - 2x_2 \le 6$

Accepted Answers:

 $x_1 \le 10$

 $x_2 \ge 1$

has

 $x_1, x_2 \ge 0$

in feasible solution

an optimal solution

unbounded solution

No, the answer is incorrect.

Min. $Z = 40x_1 + 24x_2$

 $x_1, x_2 \ge 0$

subject to $20x_1 + 50x_2 \ge 4800$

 $80x_1 + 50x_2 \ge 7200$

 $x_1 = 0$, $x_2 = 144$, Min. Z = 3456

 $x_1 = 38$, $x_2 = 84$, Min. Z = 3536

 $x_1 = 40, x_2 = 84, Min. Z = 3616$

 $x_1 = 42$, $x_2 = 80$, Min. Z = 3600

 $x_1 = 0$, $x_2 = 144$, Min. Z = 3456

Min. $Z = x_1 - 2x_2 - 3x_3$

 $x_1, x_2 \geq 0.$

has an unbounded solution

No, the answer is incorrect.

 $Max. Z = 3x_1 - x_2$

subject to $2x_1 + x_2 \ge 2$

 $x_1 + 3x_2 \le 2$

 $x_1 = 1$, $x_2 = 0$, Max. Z = 3

 $x_1 = 2$, $x_2 = 0$, Max. Z = 6

No, the answer is incorrect.

 $x_1 = 2$, $x_2 = 0$, Max. Z = 6

Min. $Z = 3x_1 - x_2$

 $x_2 \leq 4$

is given by

subject to $2x_1 + x_2 \ge 2$

 $x_1 + 3x_2 \le 5$

 $x_1, x_2 \geq 0.$

 $x_1 = 1$, $x_2 = 1$, Min. Z = 2

 $x_1 = 1$, $x_2 = 4/3$, Min. Z = 5/3

 $x_1 = 1/5$, $x_2 = 8/5$, Min. Z = 1/5

 $x_1 = 3/2$, $x_2 = 1/6$, Min. Z = 13/3

 $x_1 = 1/5$, $x_2 = 8/5$, Min. Z = 1/5

Min. $Z = x_1 + x_2 + x_3$

 $x_1 - 3x_2 + 4x_3 = 5$

9) The dual of the following problem

and $x_1, x_2 \ge 0$, x_3 is unrestricted

 $Max. Z_D = -5y_1 - 3y_2 + 4y_3$

and $y_2, y_3 \ge 0$, y_1 is unrestricted

 $Max. Z_D = -5y_1 - 3y_2 + 4y_3$

and $y_2, y_3 \ge 0$, y_1 is unrestricted

and $y_2, y_3 \ge 0$, y_1 is unrestricted

 $Max. Z_D = -5y_1 - 3y_2 + 4y_3$

and $y_2, y_3 \ge 0$, y_1 is unrestricted

 $Max. Z_D = 5y_1 + 3y_2 - 4y_3$

No, the answer is incorrect.

Accepted Answers:

subject to

subject to

subject to

subject to

subject to

 $-y_1-y_2 \leq 1$

 $-4y_1 - y_3 \ge 1$

Accepted Answers:

 $3y_1 + 2y_2 + 2y_3 \le 1$

subject to

 $-y_1-y_2\leq 1$

 $-4y_1-y_3=1$

subject to

is

subject to

 $y_1 - 4y_2 \ge 3$

 $y_1 + y_2 \ge 5$

 $3y_1 - 2y_2 \ge 7$

and $y_1, y_2 \geq 0$

subject to

 $y_1 - 4y_2 \ge 3$ $y_1 + y_2 \ge 5$

 $3y_1 - 2y_2 \le 7$

and $y_1, y_2 \geq 0$

subject to

 $y_1 - 4y_2 \ge 3$

 $y_1 + y_2 \le 5$

 $3y_1 - 2y_2 = 7$

and $y_1, y_2 \geq 0$

subject to

 $y_1 - 4y_2 \ge 3$

 $y_1 + y_2 \ge 5$

 $3y_1 - 2y_2 = 7$

and $y_1, y_2 \geq 0$

Accepted Answers:

Score: 0

subject to

 $y_1 - 4y_2 \ge 3$

 $y_1 + y_2 \geq 5$

 $3y_1 - 2y_2 = 7$

and $y_1, y_2 \geq 0$

No, the answer is incorrect.

 $Min. Z_D = 10y_1 - 15y_2$

 $3y_1 + 2y_2 + 2y_3 \le 1$

No, the answer is incorrect.

Max. $Z_D = -5y_1 - 3y_2 + 4y_3$

and $y_2, y_3 \ge 0$, y_1 is unrestricted

 $Max. Z = 3x_1 + 5x_2 + 7x_3$

 $x_1 + x_2 + 3x_3 \le 10$

 $4x_1 - x_2 + 2x_3 \ge 15$

Min. $Z_D = 10y_1 - 15y_2$

10) The dual of the following L. P. P.

and $x_1, x_2 \ge 0$, x_3 is unrestricted

 $-y_1-y_2 \leq 1$

 $-4y_1-y_3=1$

 $3y_1 + 2y_2 + 2y_3 \le 1$

 $-y_1-y_2 \leq 1$

 $-4y_1 - y_3 \le 1$

 $3y_1 + 2y_2 + 2y_3 \le 1$

 $-y_1-y_2 \leq 1$

 $-4y_1-y_3=1$

 $3y_1 + 2y_2 + 2y_3 \le 1$

 $x_1 - 2x_2 \le 3$ $2x_2-x_3\geq 4$

Score: 0

Accepted Answers:

Score: 0

 $x_1 = 3/2$, $x_2 = 1/6$, Max. Z = 13/3

 $x_1 = 5/4$, $x_2 = 1/4$, Max. Z = 7/2

 $x_1, x_2 \ge 0$

Accepted Answers:

is given by

Score: 0

does not have any feasible solution.

does not have any feasible solution.

subject to $-2x_1 + x_2 + 3x_3 = 2$

 $2x_1 + 3x_2 + 4x_3 = 1$

6) By using two phase method, the following L. P. P.

has optimal solution given by $x_1 = 0$, $x_2 = 1$, $x_3 = 1$, Min. Z = -5

has optimal solution given by $x_1 = 1$, $x_2 = 3$, $x_3 = 0$, Min. Z = -5

7) By using two phase method, the solution of the following L. P. P.

8) By using two phase method, the solution of the following L. P. P.

No, the answer is incorrect.

Accepted Answers:

Score: 0

5) By using two phase method, the solution of the following L. P. P.

none of these

Accepted Answers: unbounded solution

is given by

Score: 0

Score: 0

 $x_1 + 2x_2 + x_3 + x_4 = 10$

 $Max. Z = x_1 + 2x_2 + 3x_3 - x_4$

subject to $x_1 + 2x_2 + 3x_3 = 15$

3) Using big - M method, the solution of the problem

 $x_1 = \frac{5}{2}$, $x_2 = \frac{3}{4}$, $x_3 = \frac{11}{3}$, $x_4 = 0$, Z = 15

 $x_1 = \frac{5}{2}$, $x_2 = \frac{5}{2}$, $x_3 = \frac{5}{2}$, $x_4 = 0$, Z = 15

 $x_1 = 5$, $x_2 = \frac{5}{2}$, $x_3 = 0$, $x_4 = 0$, Z = 10

 $x_1 = 0$, $x_2 = 0$, $x_3 = 5$, $x_4 = 10$, Z = 5

 $x_1 = \frac{5}{2}, x_2 = \frac{5}{2}, x_3 = \frac{5}{2}, x_4 = 0, Z = 15$

4) Using big - M method, the problem

Accepted Answers:

2) Using big -M method, the solution of the problem

none of these

Accepted Answers: no feasible solution

Score: 0

Assignment 10 The due date for submitting this assignment has passed. As per our records you have not submitted this assignment. 1) Using big M – method, the problem

Announcements

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Due on 2019-10-09, 23:59 IST.

reviewer4@nptel.iitm.ac.in ~

Mentor

1 point

1 point