

ASSIGNMENT

1. Obtain the dual of LPP: Max. $3x_1 + 4x_2$ subject to $2x_1 + 6x_2 \leq 16$, $5x_1 + 2x_2 \geq 20$; $x_1, x_2 \geq 0$.
2. Obtain the dual of LPP: Max. $3x_1 + x_2 + 2x_3 - x_4$ subject to $2x_1 - x_2 + 3x_3 + x_4 = 1$, $x_1 + x_2 - x_3 + x_4 = 3$; $x_1, x_2, x_3 \geq 0$, x_4 is unrestricted in sign.
3. Obtain the dual of LPP: Max. $6x_1 + 4x_2 + 6x_3 + x_4$ subject to $4x_1 + 4x_2 + 4x_3 + 8x_4 = 21$, $3x_1 + 17x_2 + 80x_3 + 2x_4 = 3$; $x_1, x_2 \geq 0$, x_3, x_4 are unrestricted in sign.
4. Use principle of duality to solve the LPP: Max. $3x_1 + 2x_2$ subject to $2x_1 + x_2 \leq 5$, $x_1 + x_2 \leq 3$; $x_1, x_2 \geq 0$.
5. Use principle of duality to solve of LPP: Max. $x_1 + 6x_2$ subject to $x_1 + x_2 \geq 1$, $x_1 + 3x_2 \leq 3$; $x_1, x_2 \geq 0$.