UNIT 2

Linear Programming Maximization Notes

Set up the following linear programming problems to determine the optimal solution to achieve the maximum profit.

1. A store wants to liquidate 200 of its shirts and 100 pairs of pants from last season. They have decided to put together two offers, A and B. Offer A is a package of one shirt and a pair of pants which will sell for $30. Offer B is a package of three shirts and a pair of pants, which will sell for $50. The store does not want to sell less than 20 packages of Offer A and no less than 10 of Offer B. How many packages of each do they have to sell to maximize the money generated from the promotion?

Decision Variables: Constraints:

Objective Function:

Optimal Solution: Maximum Value:

1. Student Council is having a talent show. According to school policy, no more than 450 student tickets may be sold and no more than 250 general admission tickets may be sold. It costs $0.50 per ticket to advertise the show to the students and $1 per ticket to advertise the show to the general public. The advertising budget is $300 for this show. Student Council gains a profit of $5 for a student ticket and $8 for a general admission ticket. How many of each type of ticket should they sell to make the maximum profit?

Decision Variables: Constraints:

Objective Function:

Optimal Solution: Maximum Value: