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I-) Wild west produces two types of cowboy hats. A type1 hat requires three times as much labor time as a type2. If the all available labor time is dedicated to type2 alone, the company can produce a total of 450 type 2 hats a day. The market limits for the two types are 100 and 300 hats per day for Type1 and Type2, respectively. The profits is \$8 per Type1 hat and \$5 per Type 2 hat. Determine the number of hats of each type that would maximize profit.

I-) Build the mathematical model of the problem

II-) Solve the problem graphically

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1-) Max: $8T_1 + 5T_2$
 $3T_1 + T_2 \leq 450$

$$\left(\frac{3}{450}\right)T_1 + \left(\frac{1}{450}\right)T_2 \leq 1$$

$$T_1 \leq 100$$

$$T_2 \leq 300$$

$$T_1, T_2 \geq 0$$

2-)

