I am aware that any forms of cheating in this exam will result in a zero grade and a disciplinary investigation. I accept all rules and regulations regarding online exams. I give permission for the processing of my personal data as stated in the Clarification Text provided on the Faculty of Engineering website

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Y/

Q1

Wild West produces two types of cowboy hats. A type 1 hat requires three times as much labor time as type 2. If the all available labor time is dedicated to type 2 alone, the company can produce a total of 450 type 2 hats a day. The market limits for two types are 100 and 300 hats per day for type 1 and type 2, respectively. The profit is $8 per type 1 hat and $5 per type 2 hat. Determine the num of hats of each type that would maximize profit.

i. Build the mathematical model of problem.
ii. Solve the problem graphically.

= type 1 → 100 hats
- type 2 → 300 hats → per day.

$X = 3x_1 t_1 + x_2 t_2$

$8 \quad 5$

types hat

$8 $5

$(100t_1 + 300t_2) \cdot (t_1 \cdot 8 + t_2 \cdot 5)$