

$$\sum_i p_i = 0, \quad \sum_i q_i \wedge p_i = 0$$

$$\Rightarrow \sum_i (q_i - C) \wedge p_i = 0.$$

Then,

$$(q_1 - C) \wedge p_1 = 0 \text{ and } (q_2 - C) \wedge p_2 = 0$$

$$\Rightarrow (q_3 - C) \wedge p_3 = 0.$$