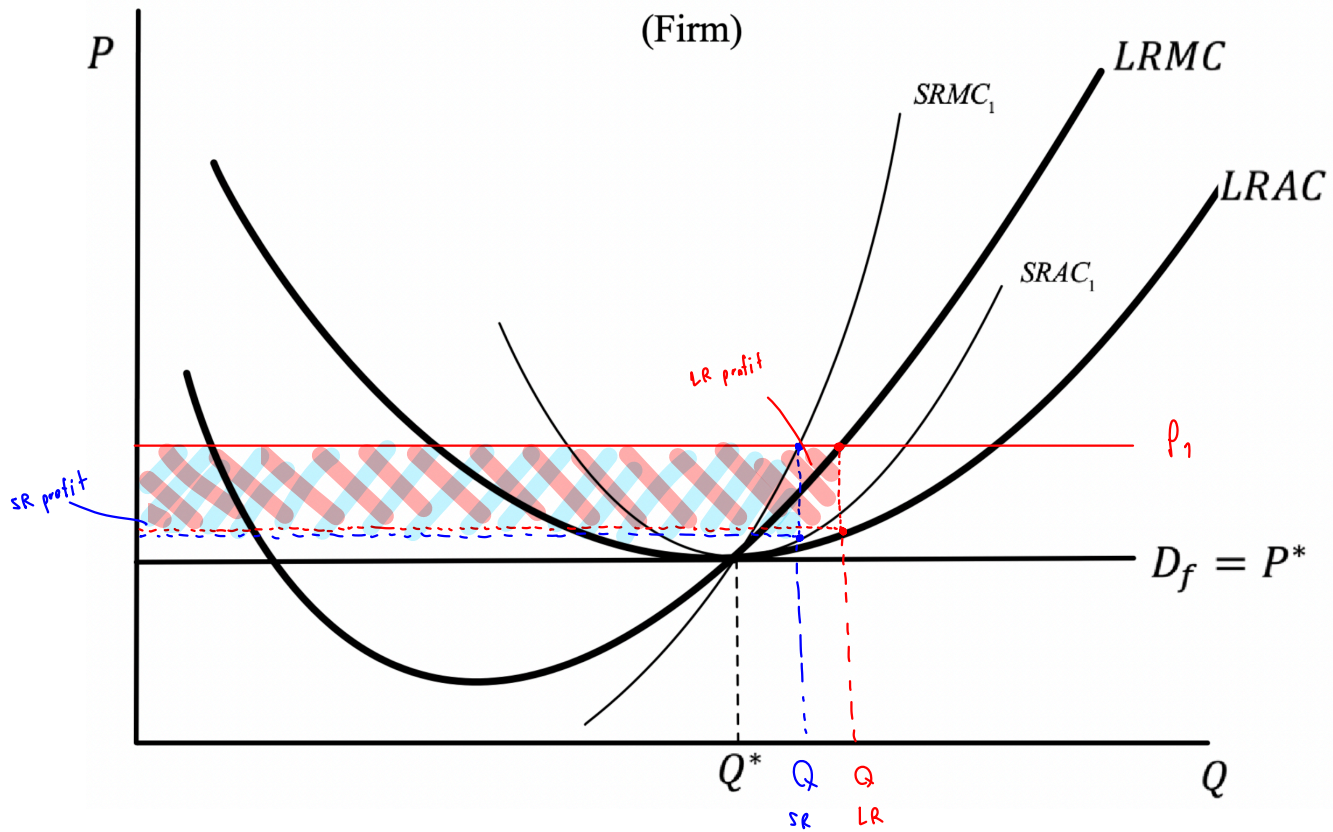


**HW#16**

Suppose that the market is in a Long-Run equilibrium where the price is at  $P^*$  and each firm produces  $Q^*$ . With the given  $SRMC_1$  and  $SRAC_1$  and  $LRMC$  and  $LRAC$ , the market price increases from  $P^*$  to  $P_1$ ,

- Show how the firm will change its output in Short Run and Long Run.
- Indicate the profit the firm receives in Short Run and Long Run.
- Explain why the profit in Long Run is bigger than profit in Short Run.



- At  $P^*$ , both SR and LR can produce at the same  $Q^*$ , so they receive the same amount of profit. At new price  $P_1$ , LR can produce more than SR ( $Q_{LR} > Q_{SR}$ ), therefore receiving higher profit.
- In Short Run, there is a fixed cost. So even if the firm does not produce any unit, they still have to pay for the fixed cost. On the other hand, there is no fixed cost in Long Run since they have been using the capitals like machines for a long time. Therefore, in SR, the new firm has to pay for new machines, land or capital, so they will gain less profit than LR.