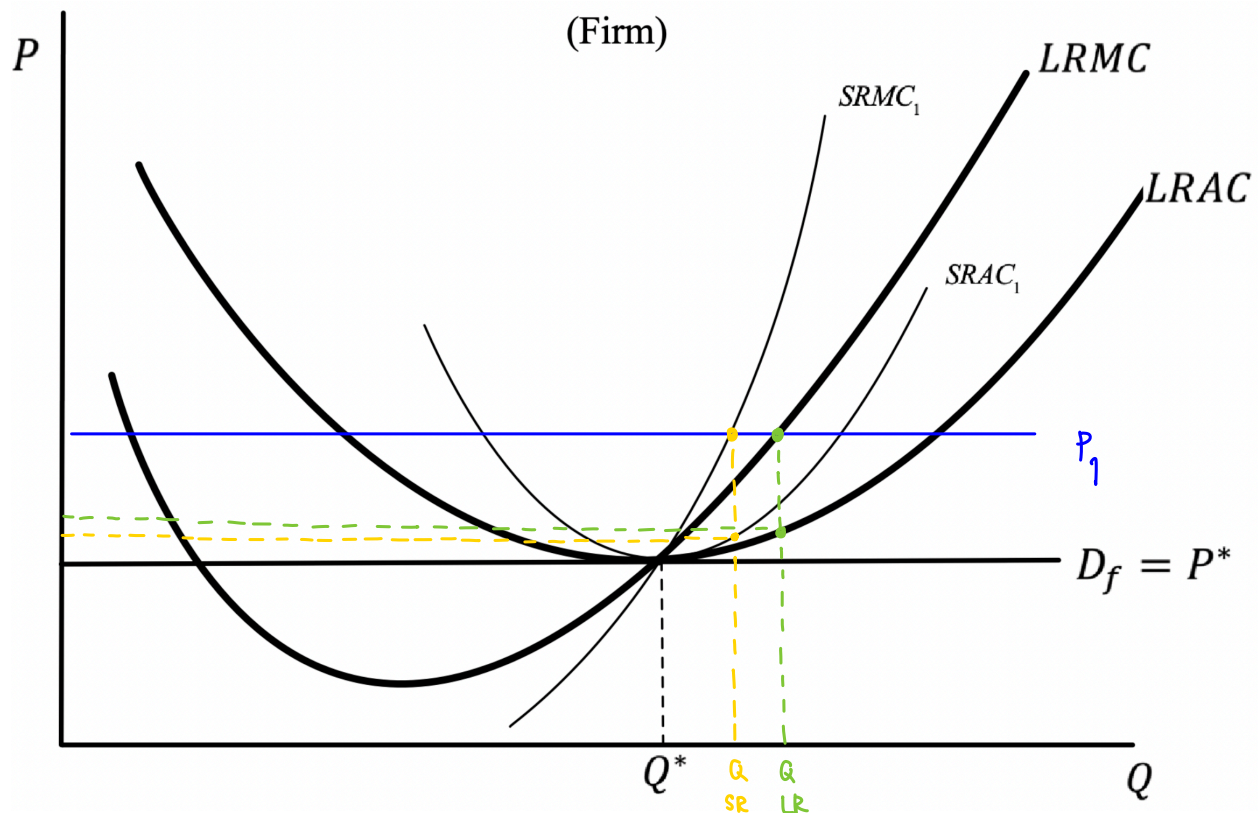


**HW#16**

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  $P^* = Q^*$  where both SR and LR produce the same  $Q$ , but once  $P^*$  increases to  $P_1$ , the  $Q$  in SR can produce less than  $Q$  in LR.
- The reason that profit in LR is bigger than SR due to the fact that in SR there is a fixed cost even though the firm does not produce any unit. Firm has to pay. But in LR there is no fixed cost since all the machines are used for a long time. Therefore, in SR where new firm has to pay for new machine, land, or capital. This will make SR gain less profit than LR.