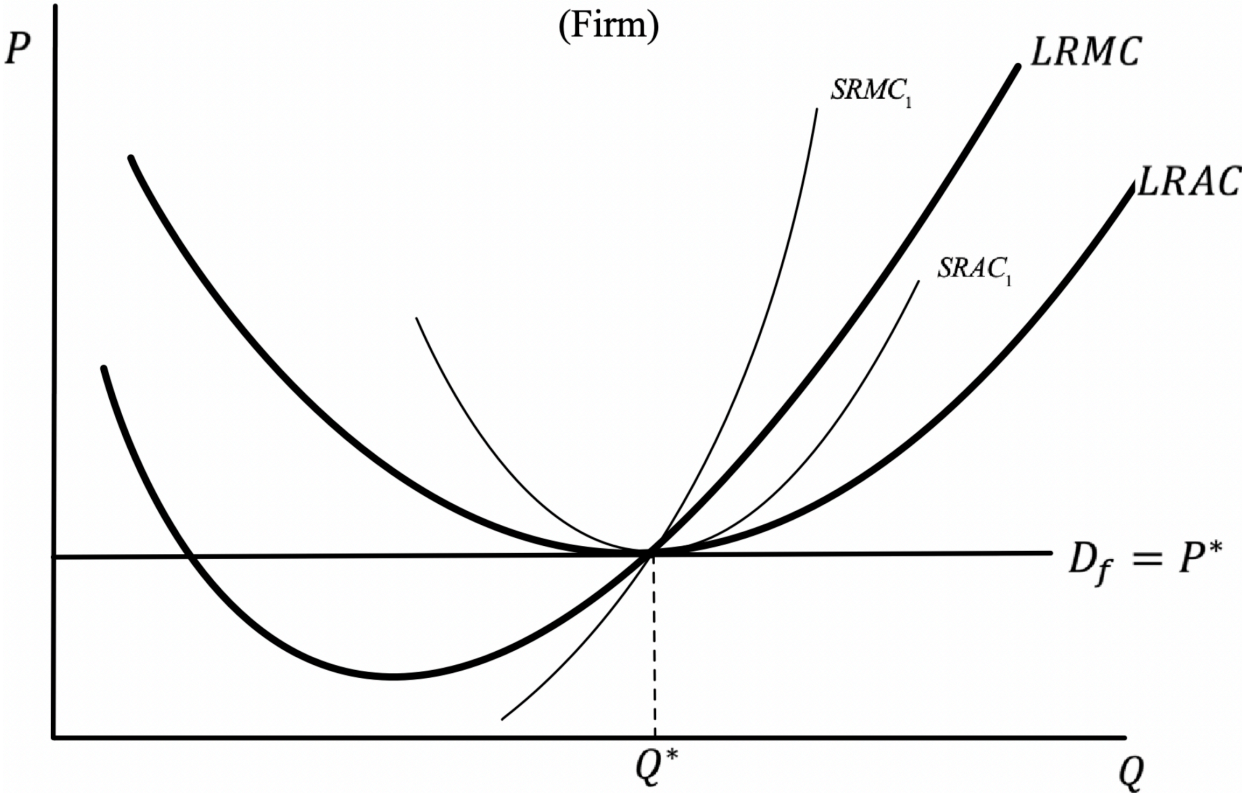


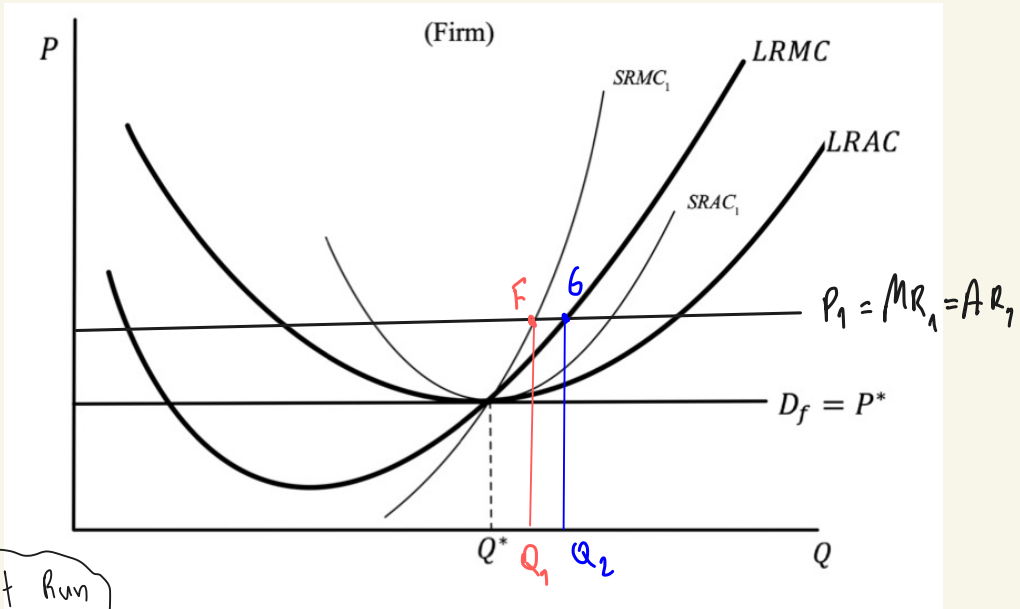
HW#16

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 ,

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



9.)



Short Run

At the old equilibrium (Point E), price = P^* and output = Q^*

⇒ Equilibrium conditions at point E

- 1.) $MR(Q^*) = SRMC(Q^*)$
- 2.) slope of $MR(Q^*) <$ slope of $SRMC(Q^*)$

When price increases from P^* to P_1 ⇒ new equilibrium is at point F. At the new equilibrium (Point F) price = P_1 , output = Q_1

⇒ The equilibrium conditions at point F

- 1.) $MR(Q_1) = SRMC(Q_1)$
- 2.) slope of $MR(Q_1) <$ slope of $SRMC(Q_1)$

The output change from Q^* to Q_1 in short run #

Long Run

At the old Equilibrium [Point E], price = P^* , output = Q^*

⇒ Equilibrium conditions at point E

1. $MR(Q^*) = LRMC(Q^*)$
2. slope of $MR(Q^*) <$ slope of $LRMC(Q^*)$

When price increases from P^* to P_1 ⇒ new E at point G

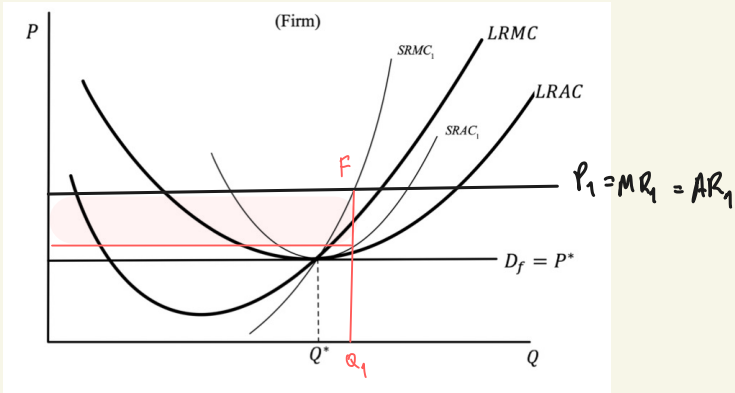
At the new equilibrium (Point G), price = P_1 , output = Q_2

⇒ Equilibrium at point G

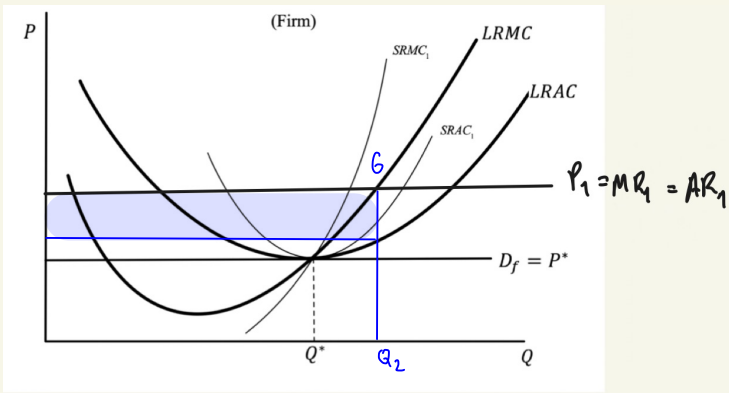
- ① $MR(Q_2) = LRMC(Q_2)$
- ② slope of $MR(Q_2) <$ slope of $LRMC(Q_2)$

The output change from Q^* to Q_2 in long run #

b.) Short Run



Long Run



c.) In Long run, firm will get more profit than short run because at the same price in long run has higher quantity and SRAC is always above LRAC.