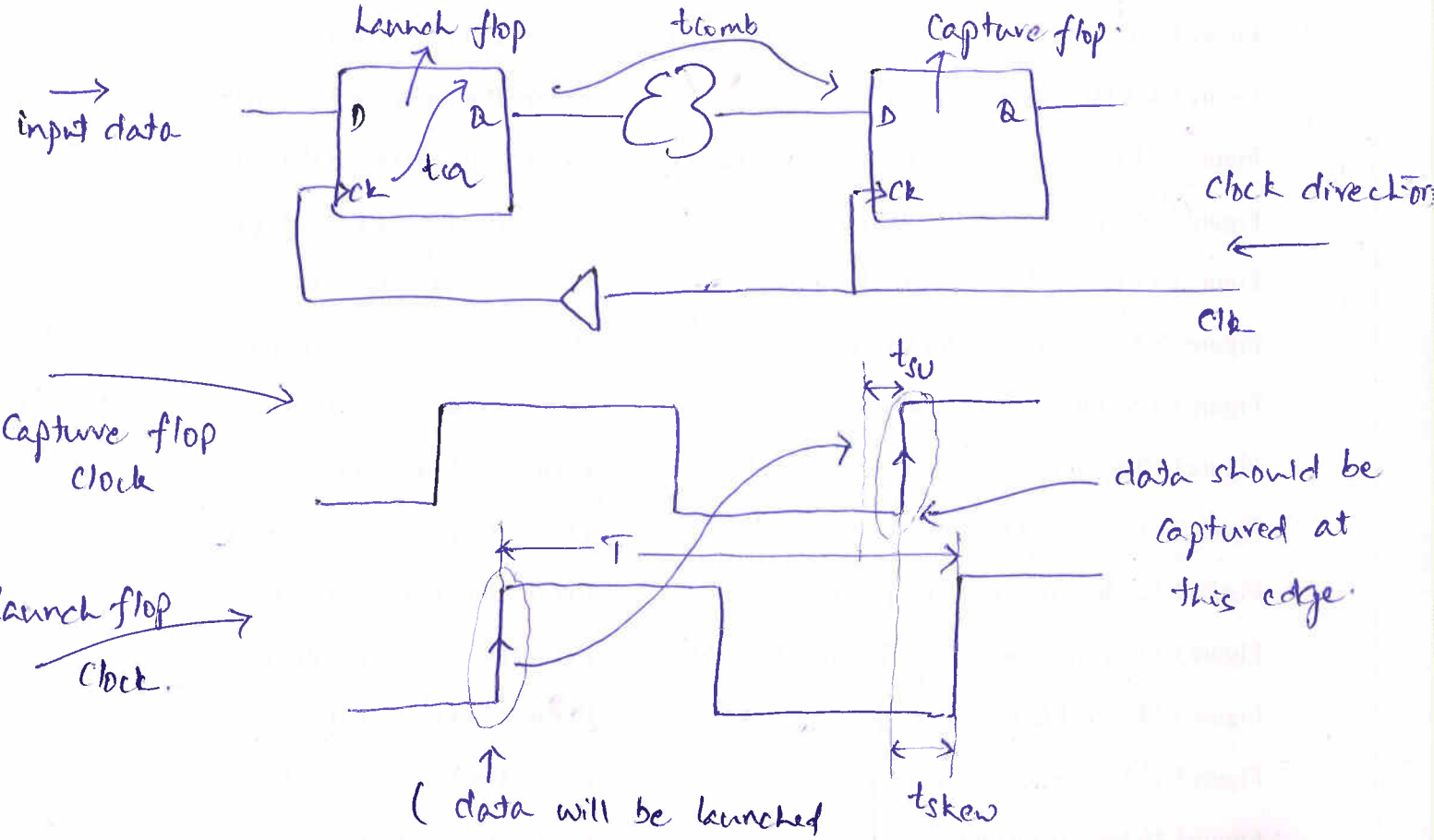
Generally, depending upon the direction of clock propagation & direction of input data, skew will be defined as positive skew & negative skew.

In our case negative skew is there. ⇒

direction of clock is opposite to the direction of input data.



In this case, capture clock rising edge will come earlier compared to launch flop clock.

from the above timing diagram, if we write the eqn.

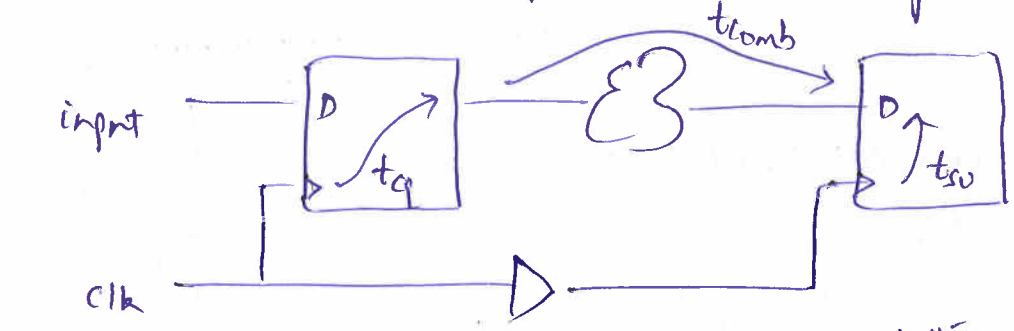
$$t_{cq} + t_{comb} \leq T - t_{skew} - t_{su}$$

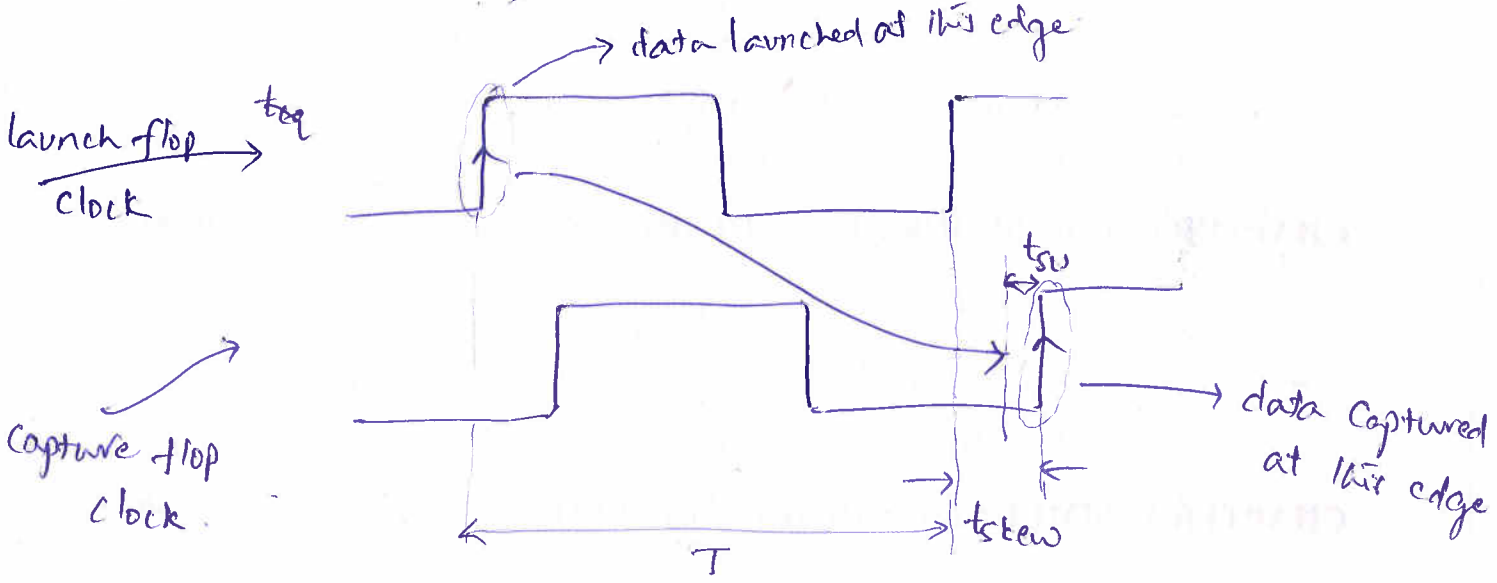
$$\Rightarrow \quad T \geq t_{cq} + t_{comb} + t_{skew} + t_{su} = 2+3+1+1$$

$$\Rightarrow \quad T \geq 7ns.$$

Note -: here we have done the analysis by considering the negative skew. So, in equation we substituted "1" instead of "-1".

Suppose, if we do analysis in normal way, like below





eqn becomes

$$t_{cq} + t_{comb} \leq T + t_{skew} - t_{su}$$

$$\Rightarrow \quad T \geq t_{cq} + t_{comb} - t_{skew} + t_{su} = 2 + 3 - (-1) + 1$$

$$= 7\,ns$$

$$\Rightarrow \quad T \geq 7\,ns.$$

Here, we didn't consider clock direction. So we substituted '-1' in eqn.

Hope it is clear now.

Depending upon the direction of clock we have to do analysis.

first one is good way to explain the solution.

Second is blindly following the equation & substituting the values.