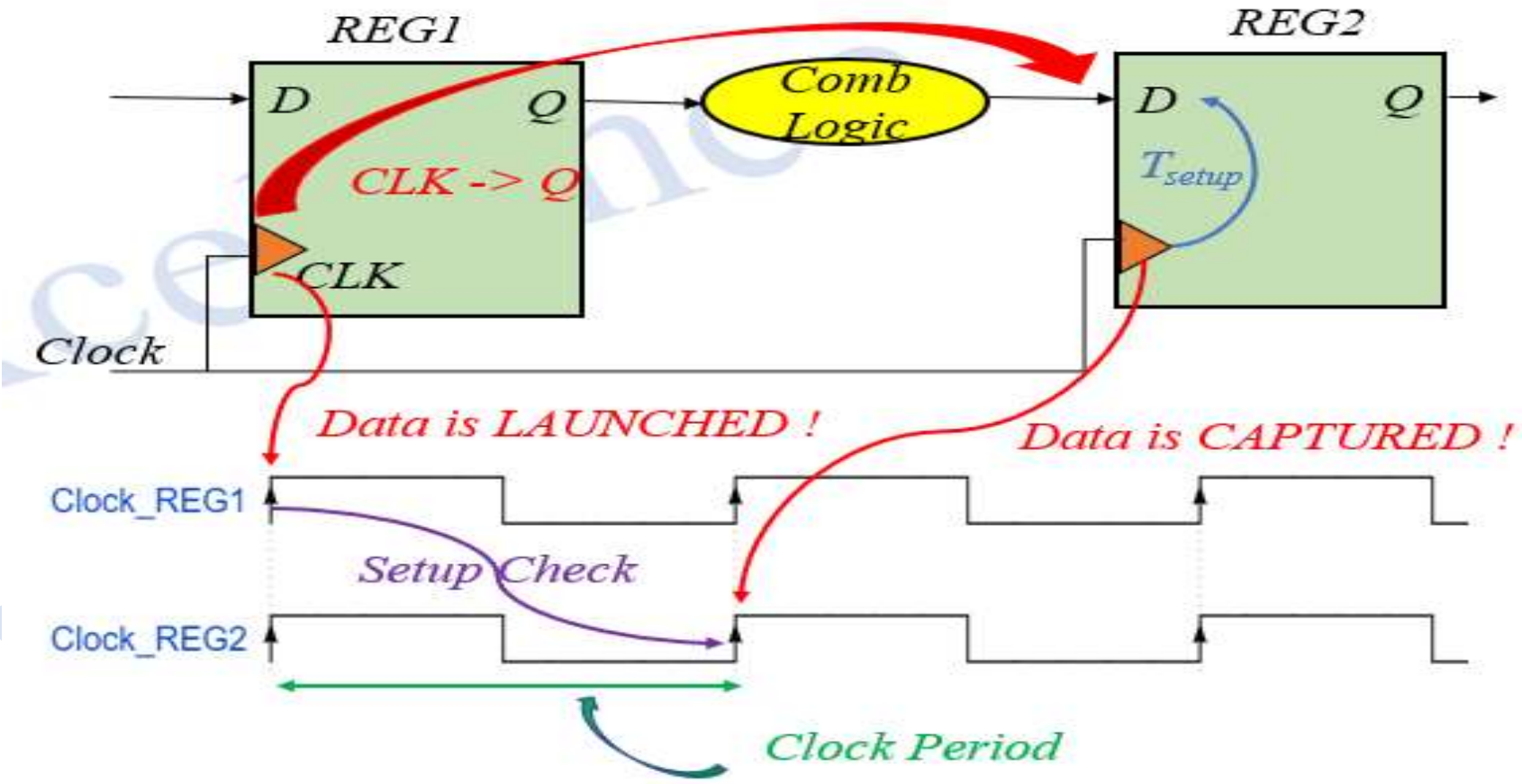
Static Timing Analysis (STA)

Lecture #11: Maximum Operating Frequency & Minimum Clock Period of a Digital Design

Video Lecture Link

Static Timing Analysis (STA) – Setup & Hold (Summary)



Static Timing Analysis (STA) – Maximum Operating Frequency

Maximum Operating Frequency:

Clk_to_Q [REG1] + Comb Delay <= Clock Period $- T_{setup}$[REG2] {Setup Equation}

Clock Period (T) >= Clk_to_Q[REG1] + Comb Delay + T_{setup}(REG2)

So, Minimum Clock Period (T) = Clk_to_Q[REG1] + Comb Delay + T_{setup}(REG2)

Hence, Maximum Clock Frequency = 1/T

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