



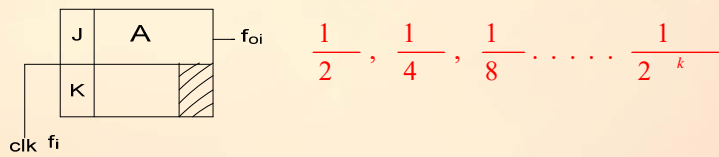



# Modern Digital System Design

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

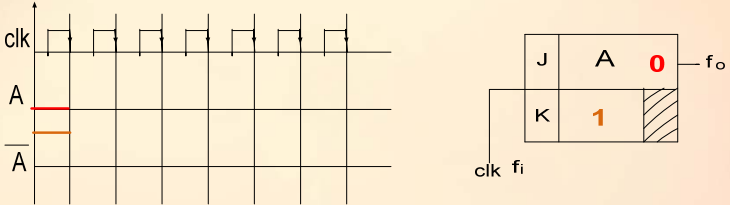
Texas Tech University  
Dr. Tooraj Nikoubin

## Examples for sequential circuits



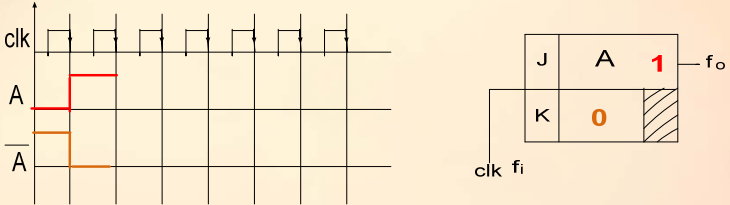




$\frac{1}{2}, \frac{1}{4}, \frac{1}{8}, \dots, \frac{1}{2^k}$

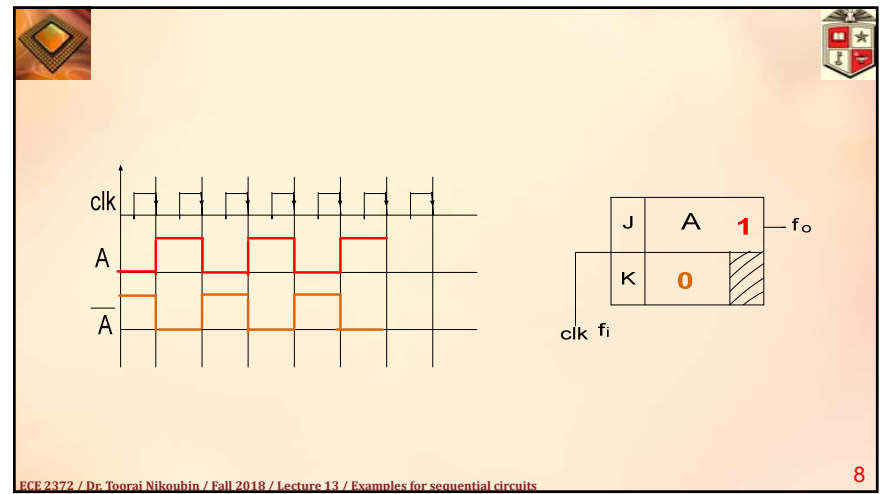
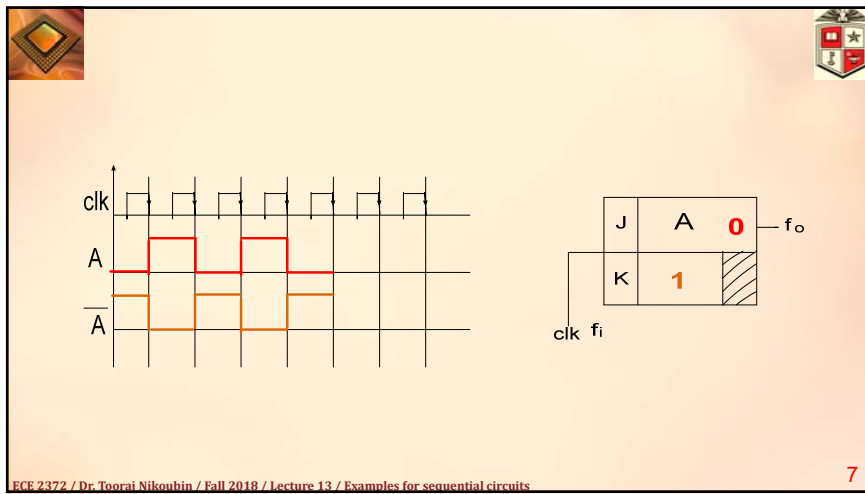
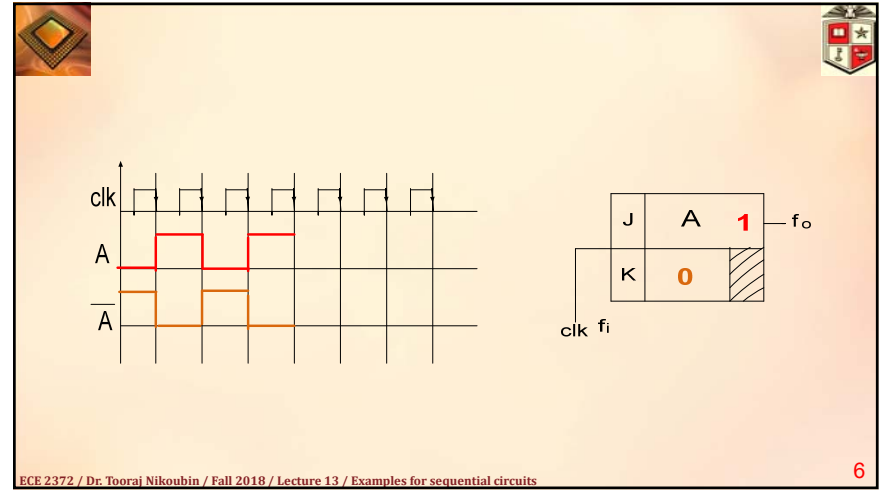
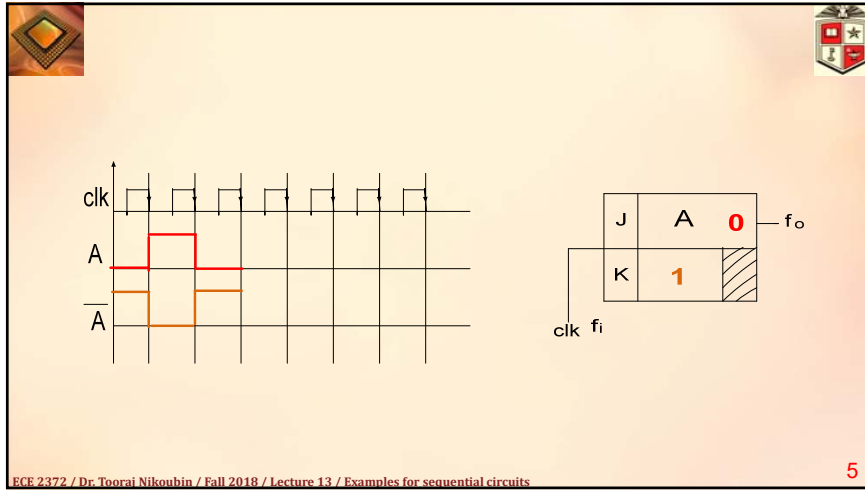
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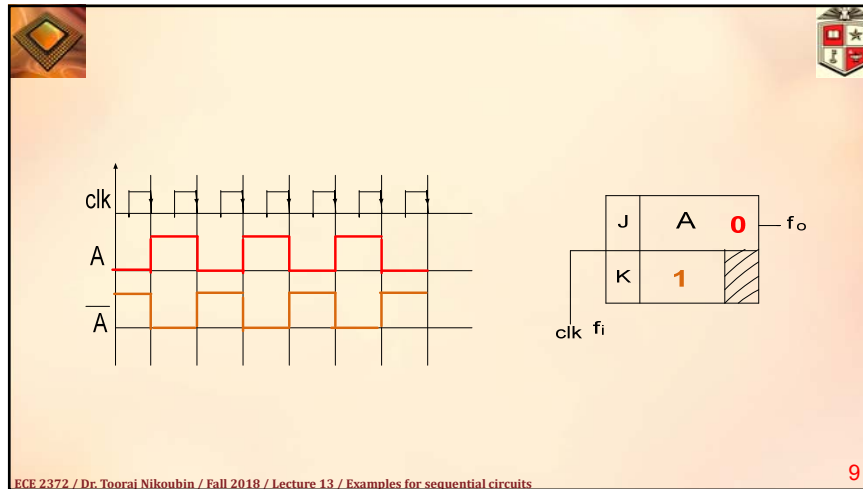




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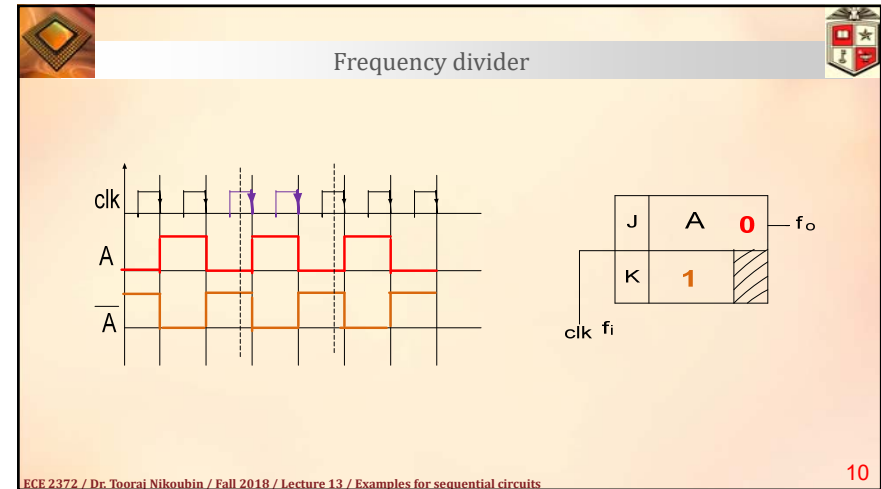




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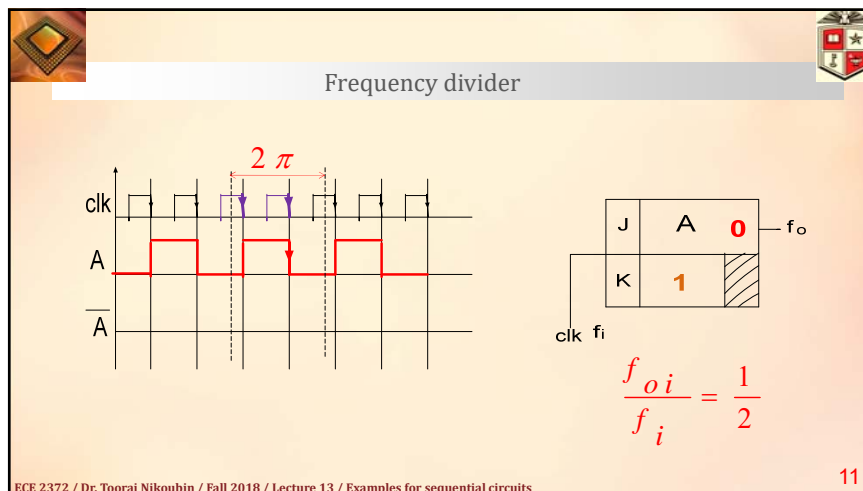




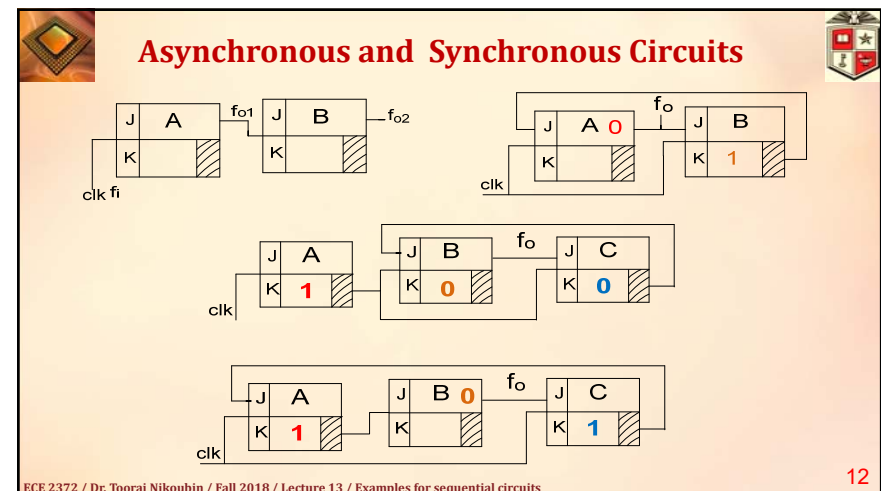
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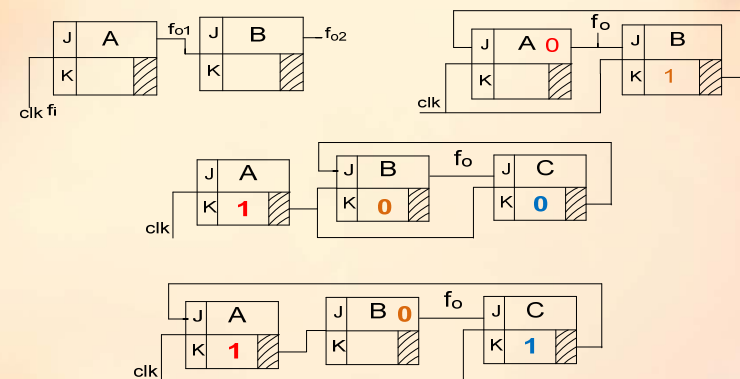


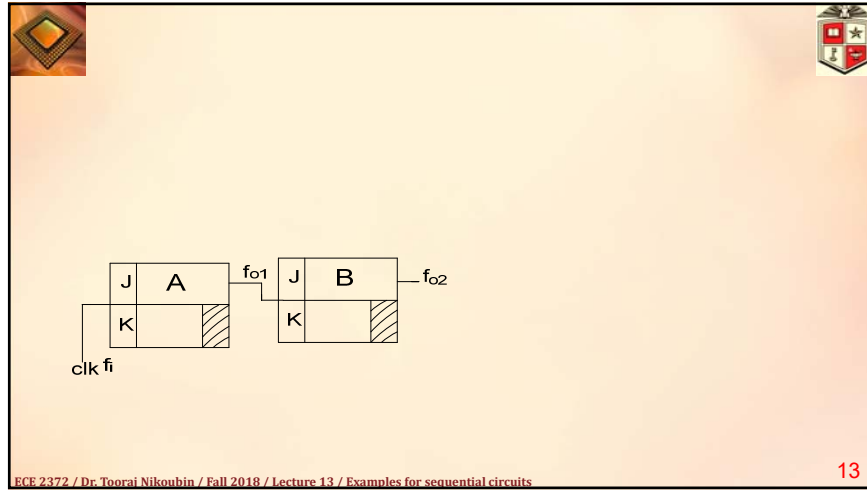
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12

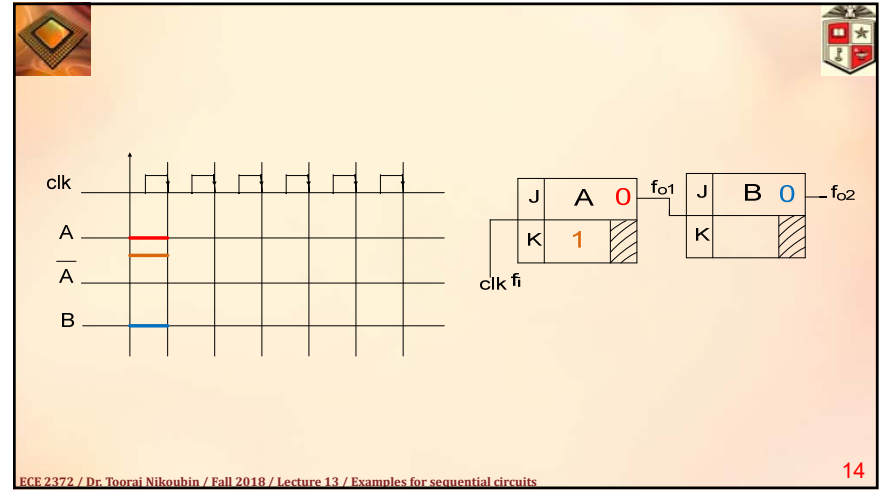
## Asynchronous and Synchronous Circuits





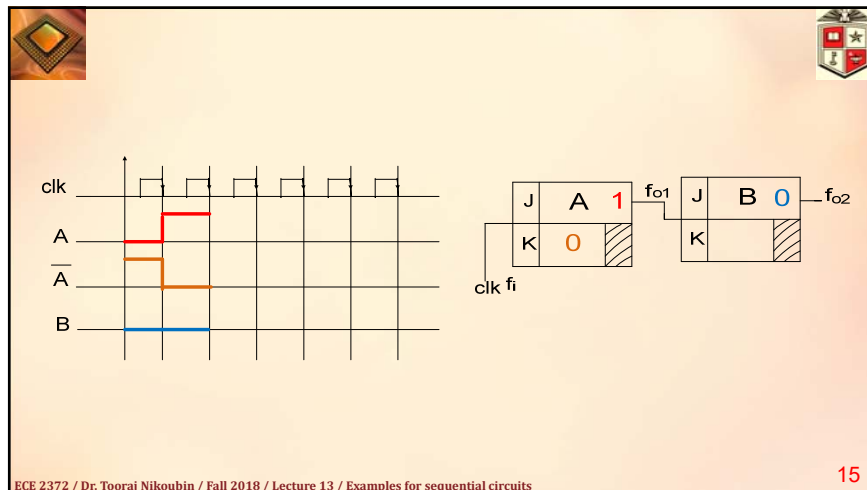
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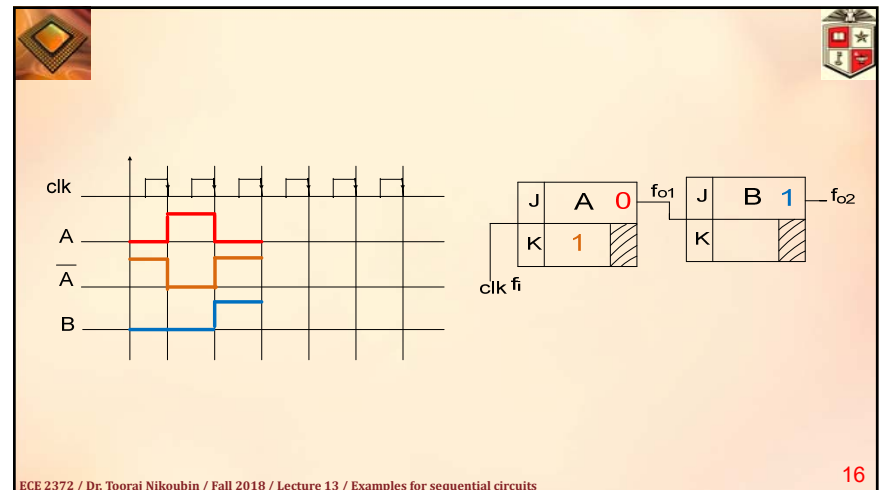
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14



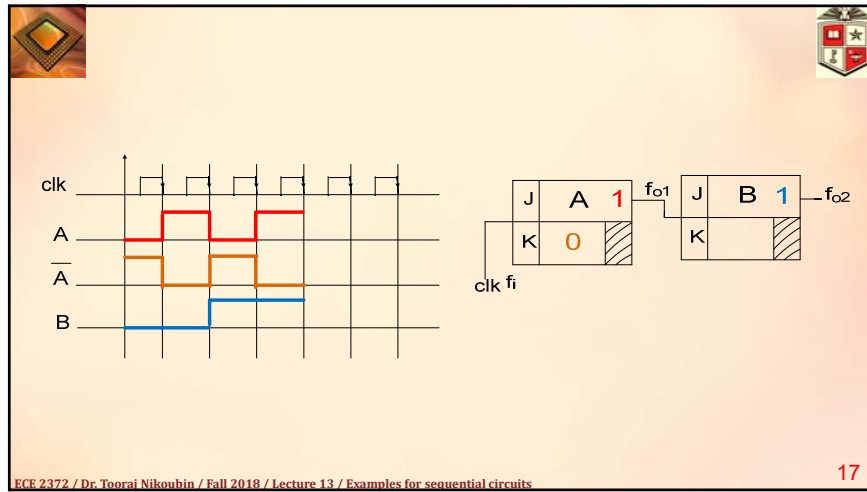
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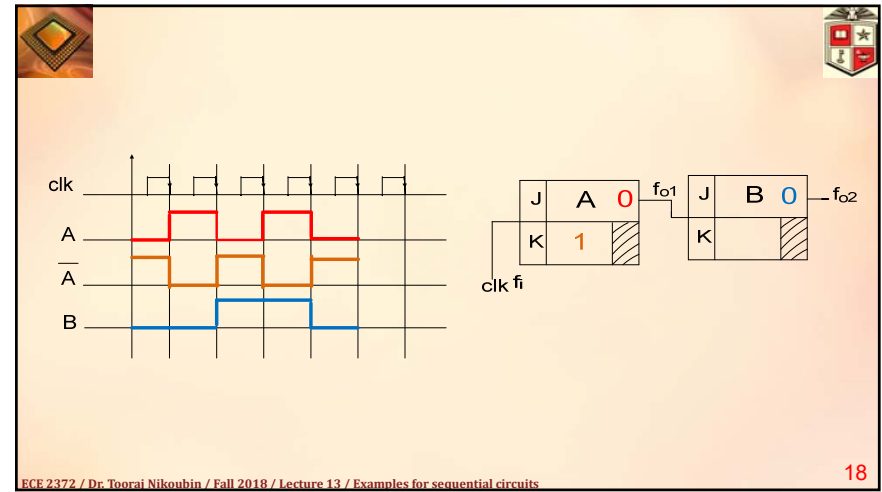


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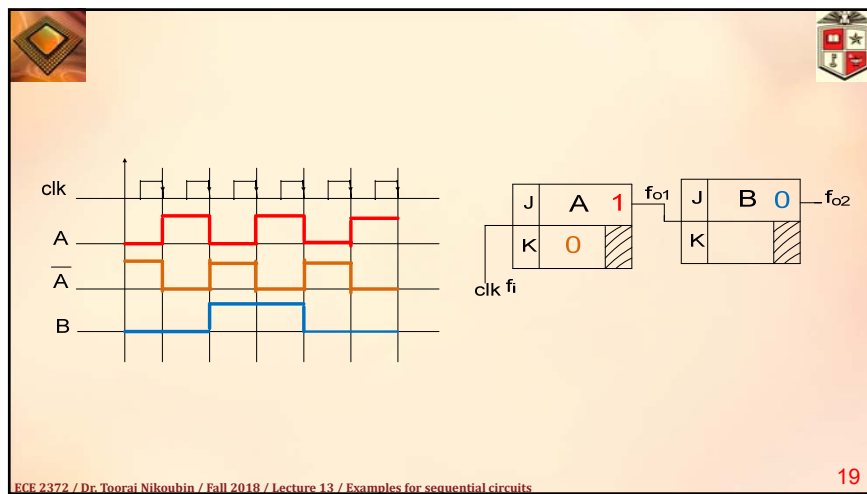
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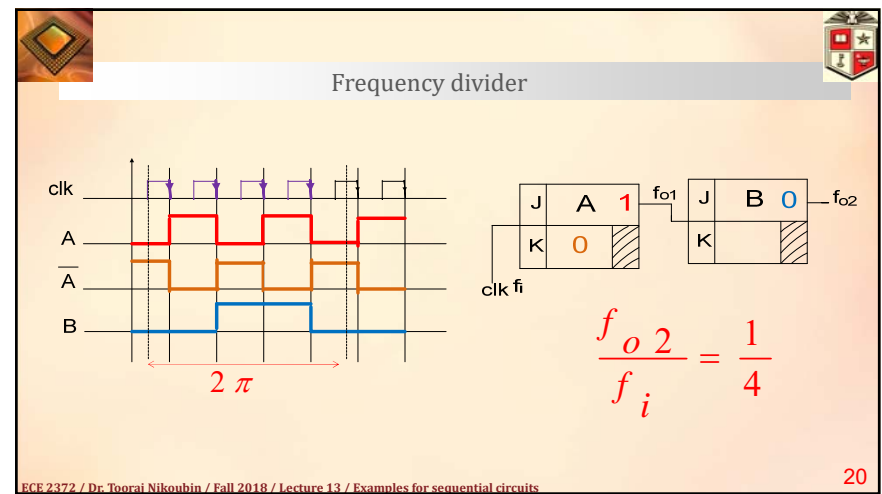
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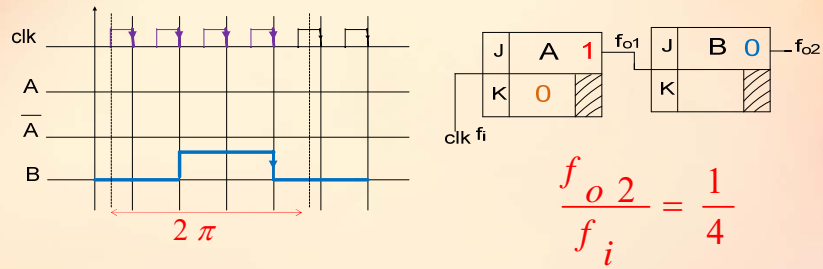


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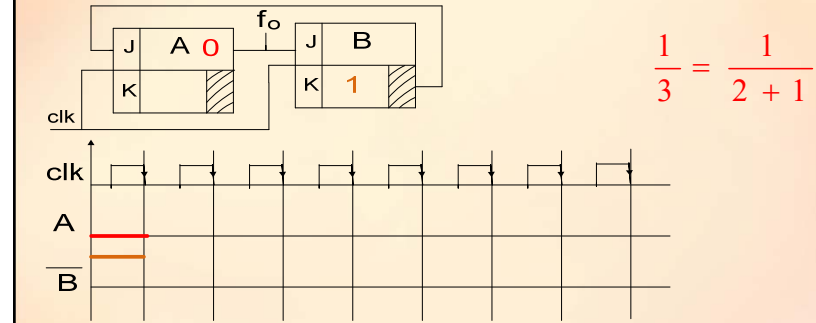
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## Frequency divider



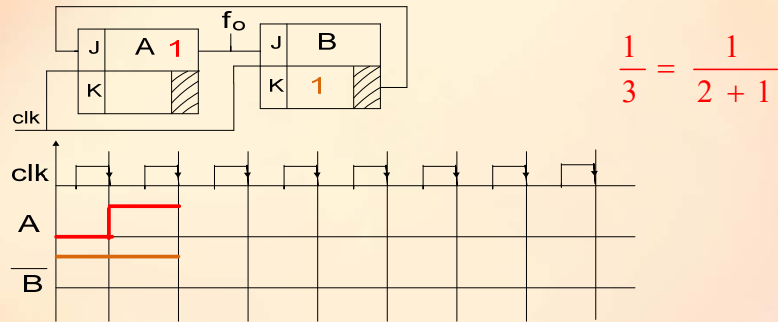
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21



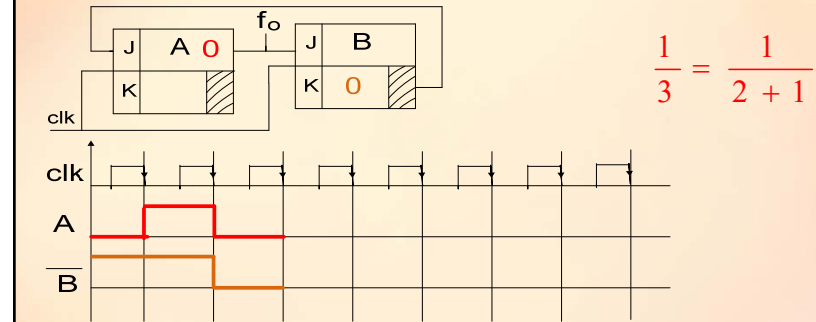
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22



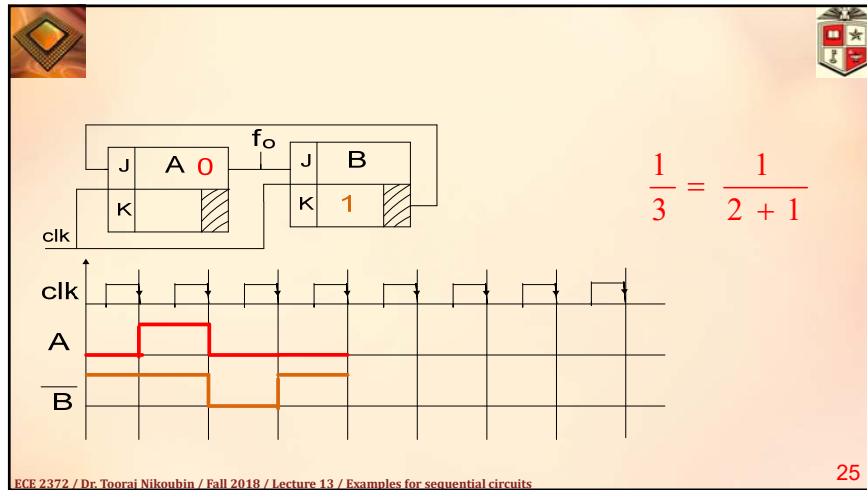
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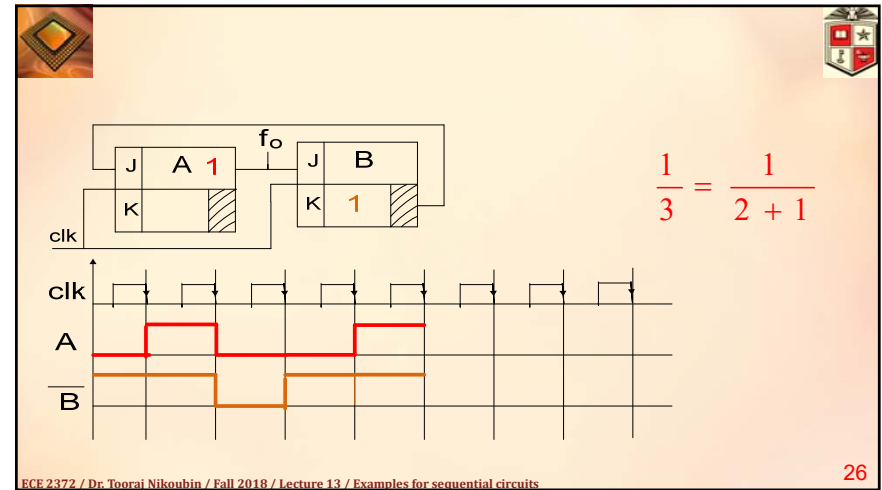


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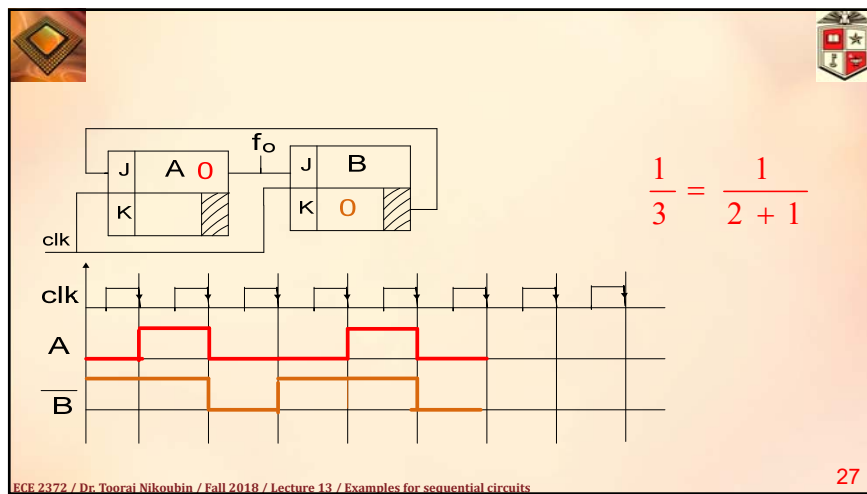
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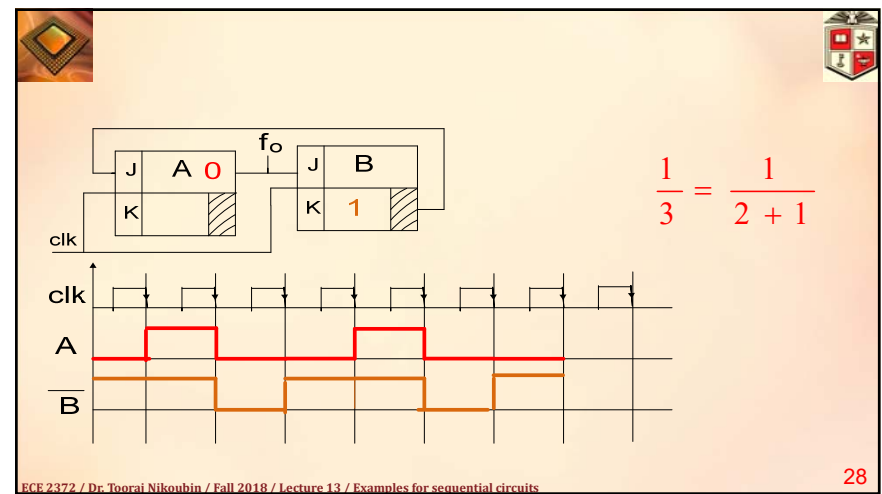
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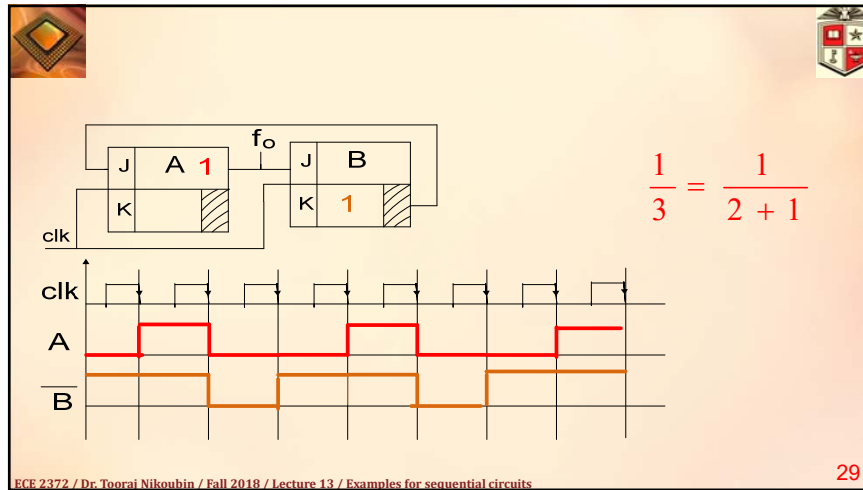
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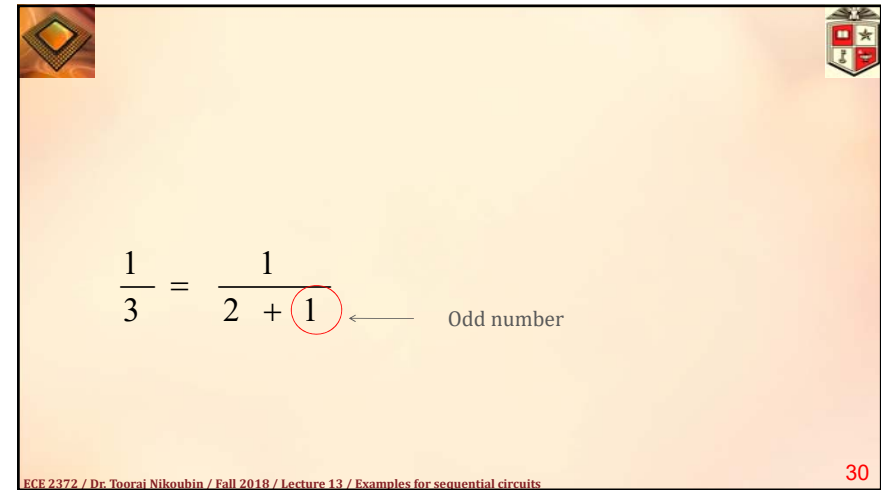
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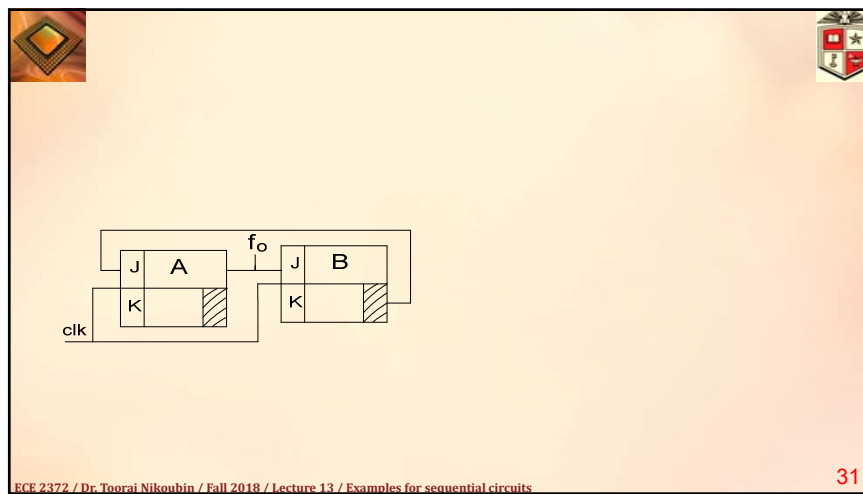
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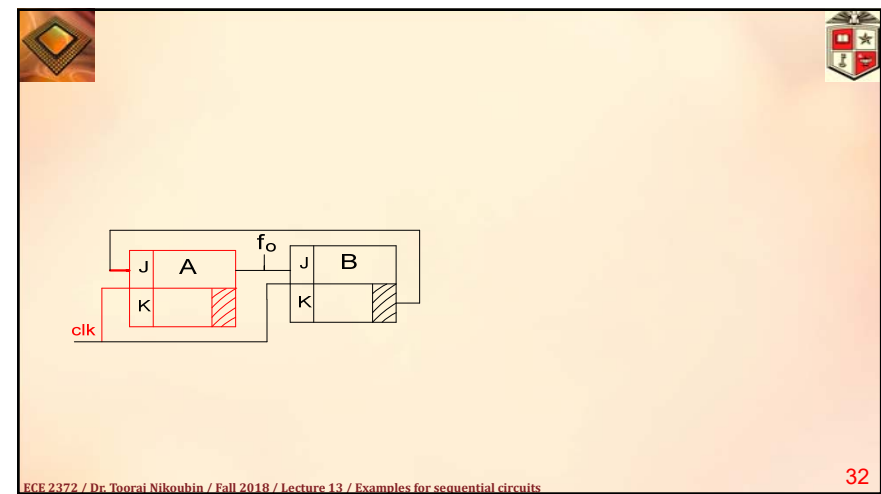
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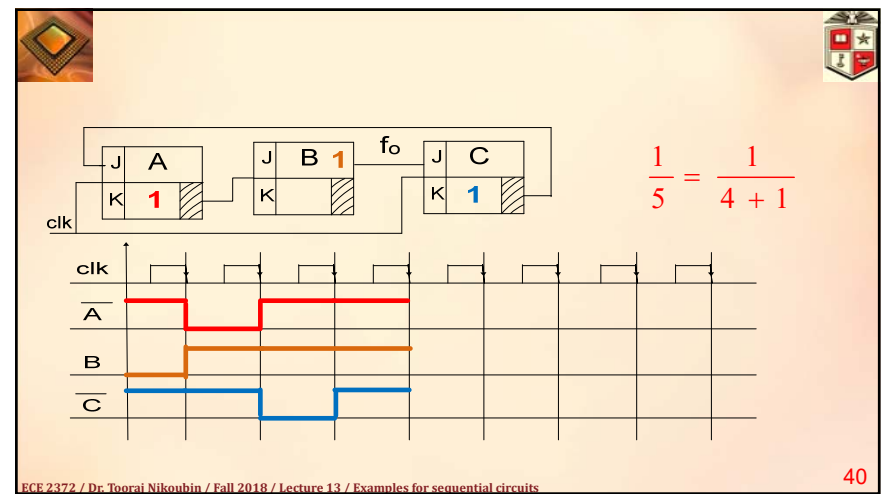
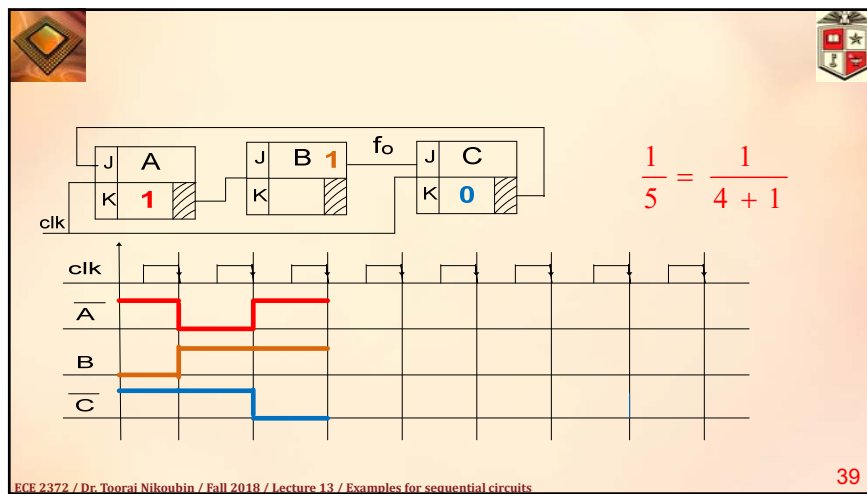
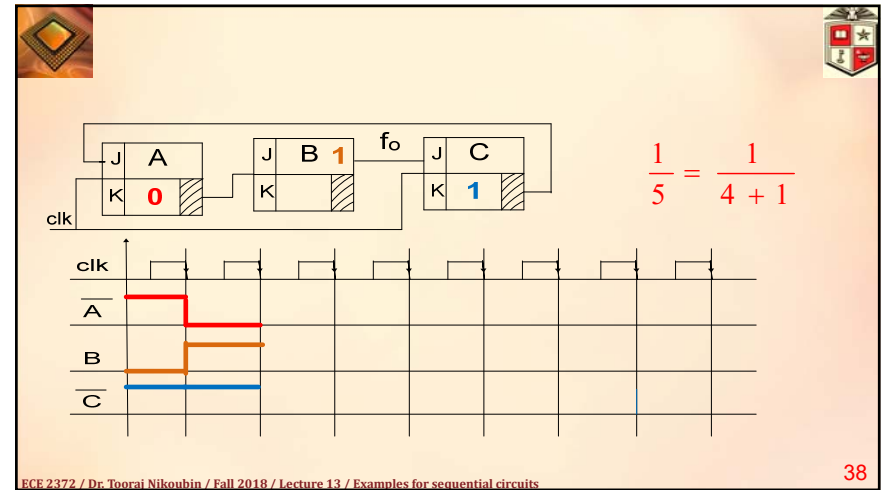
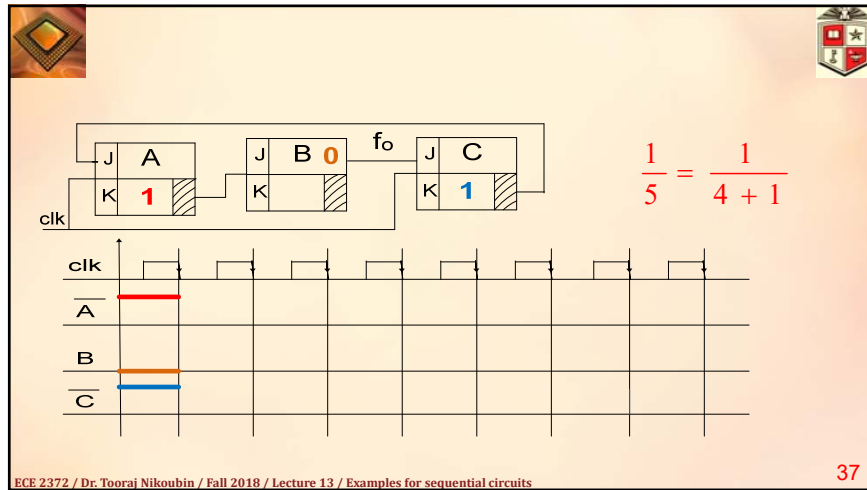
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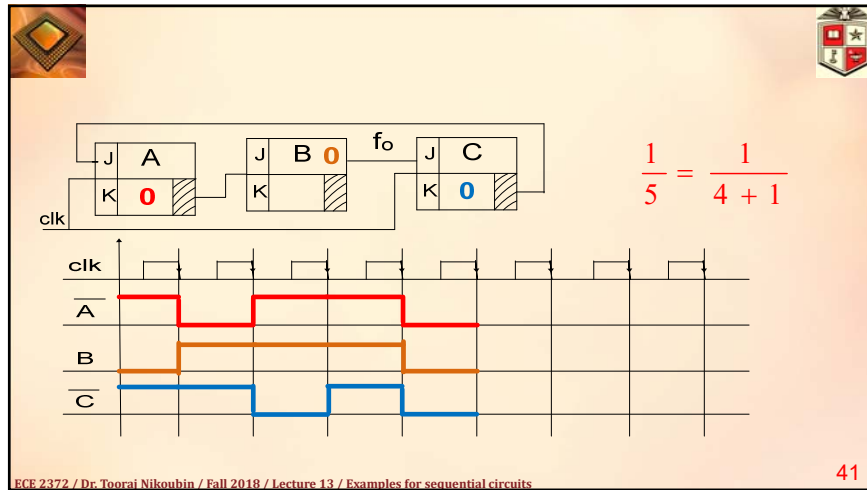


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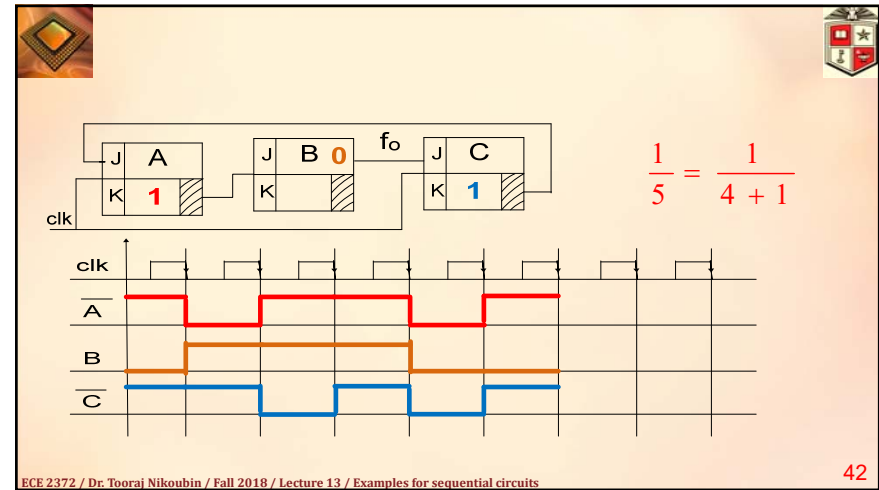




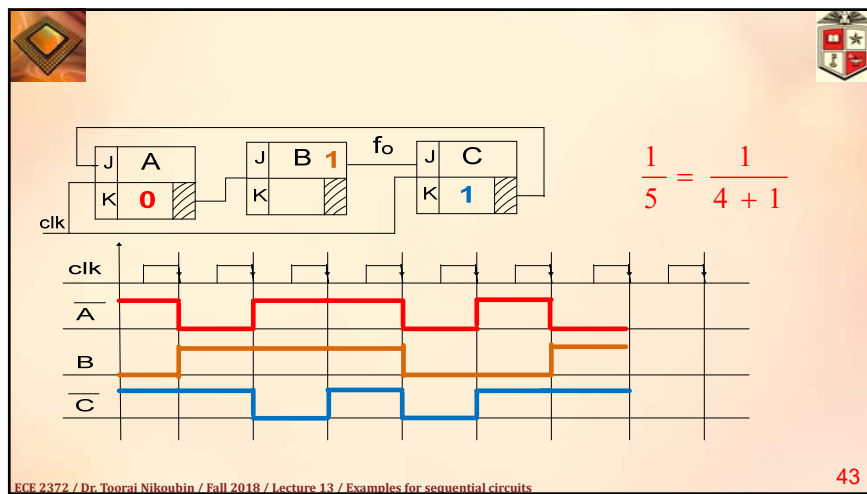




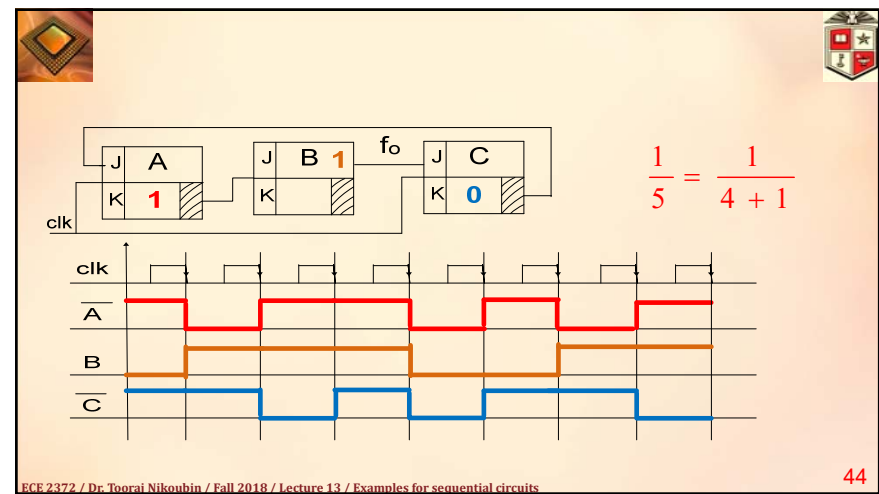
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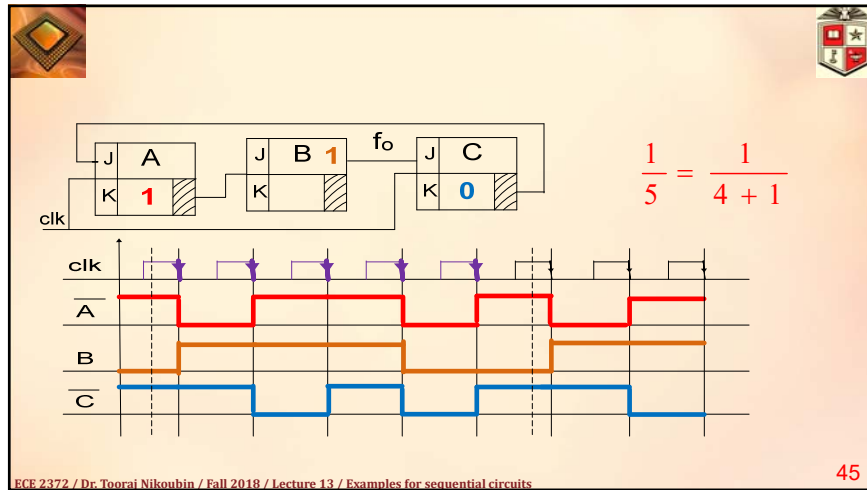
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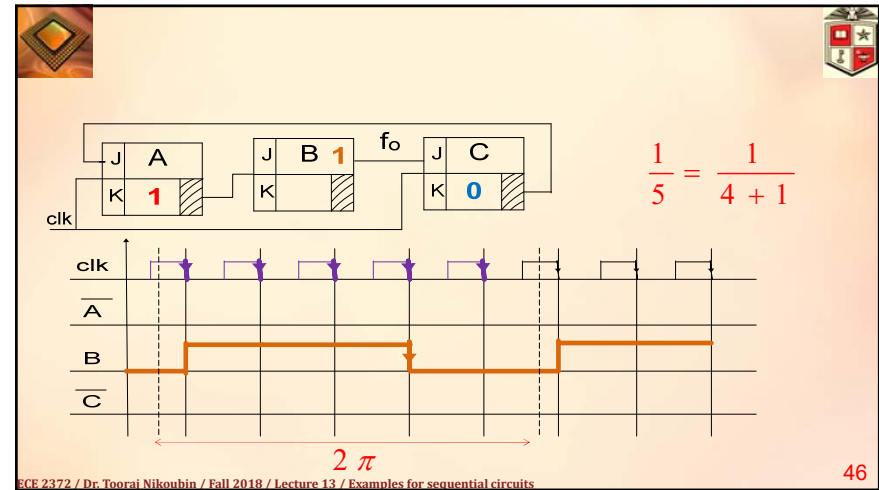
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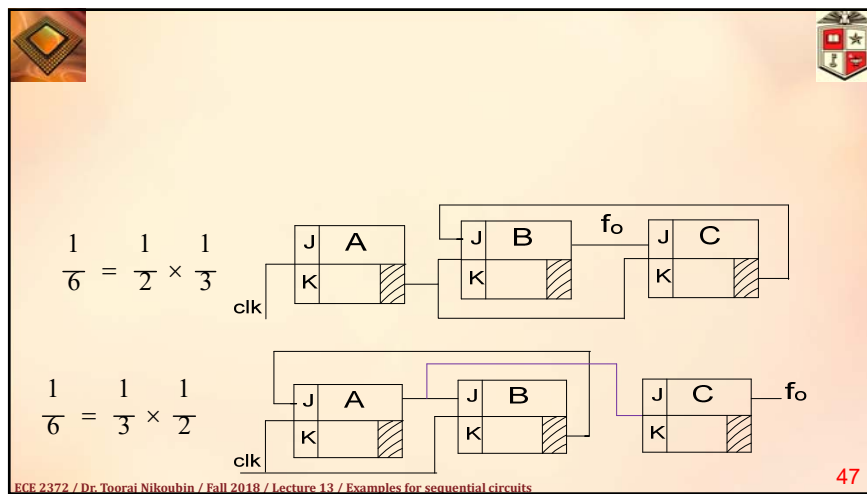
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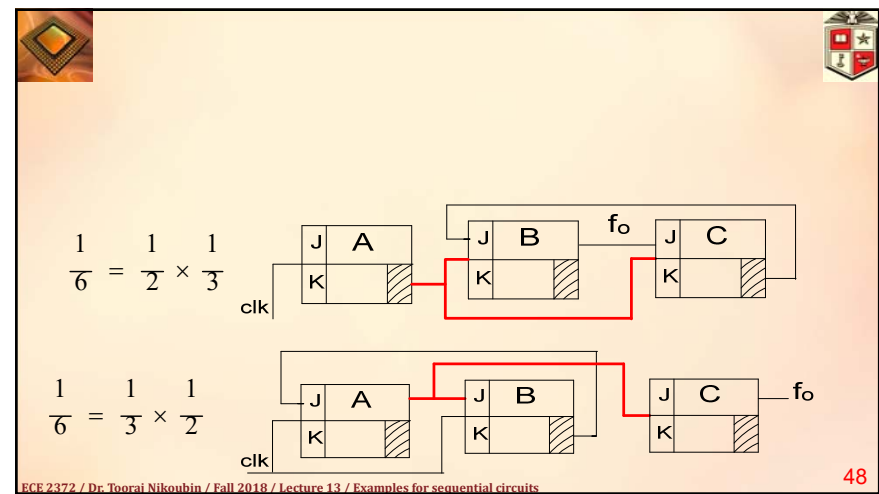
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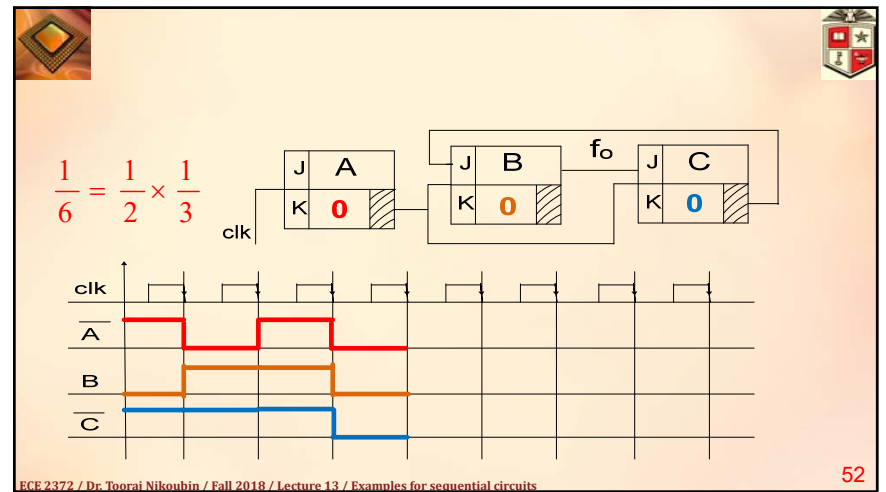
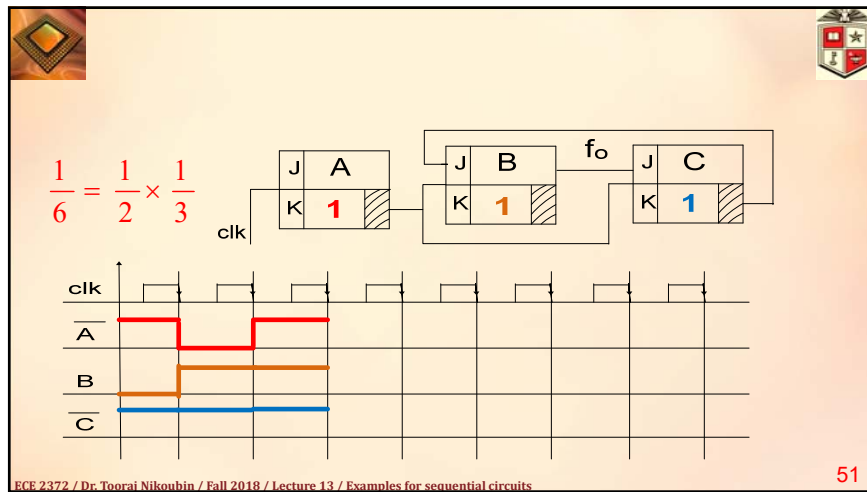
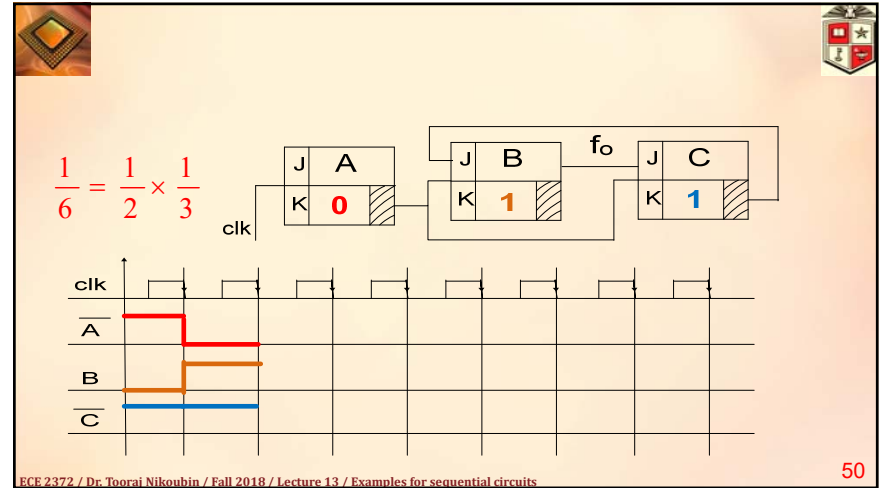
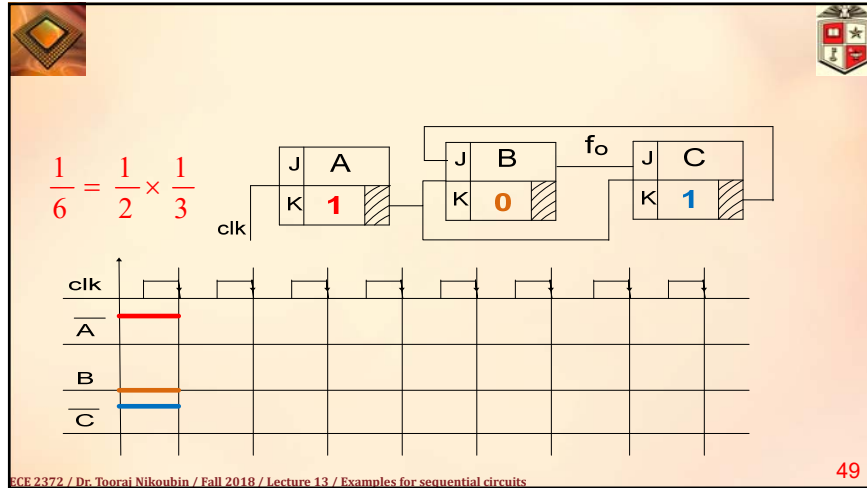
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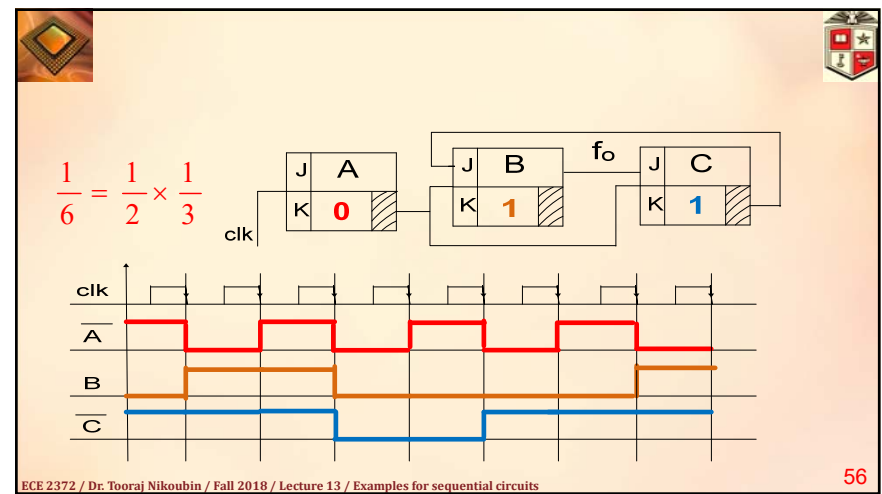
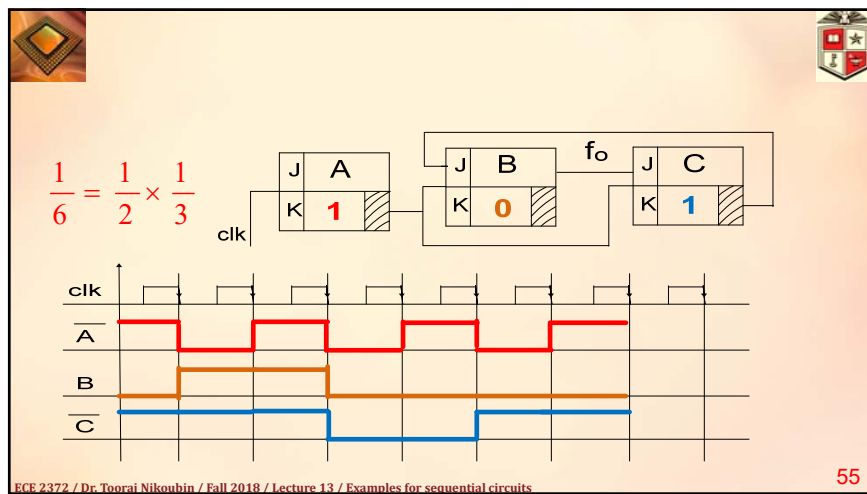
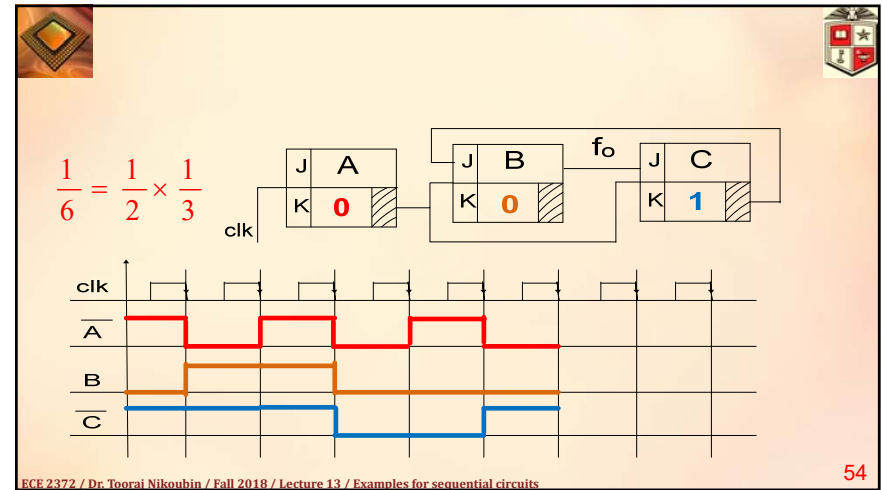
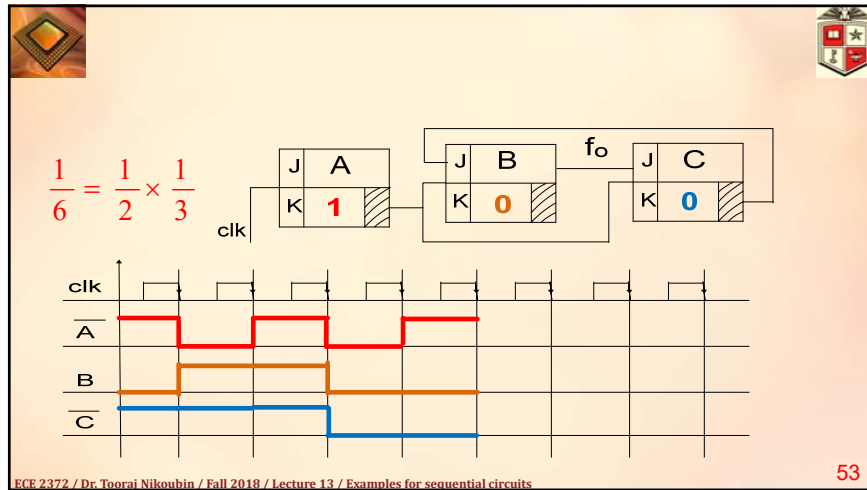


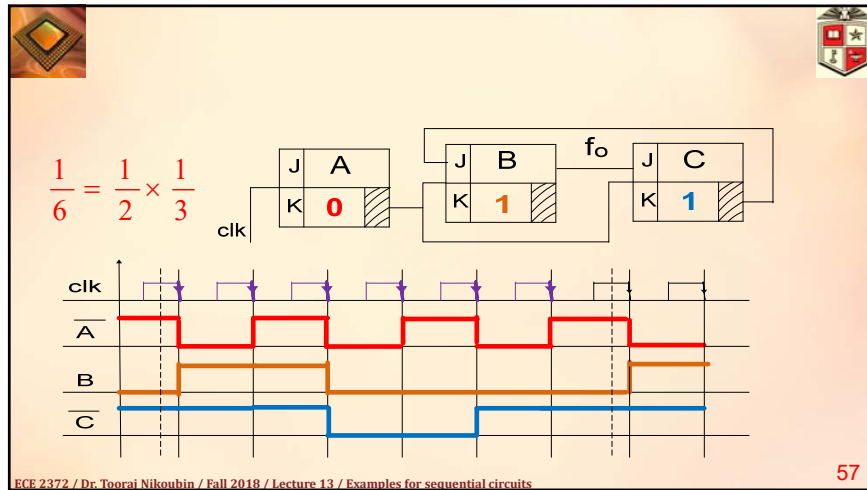
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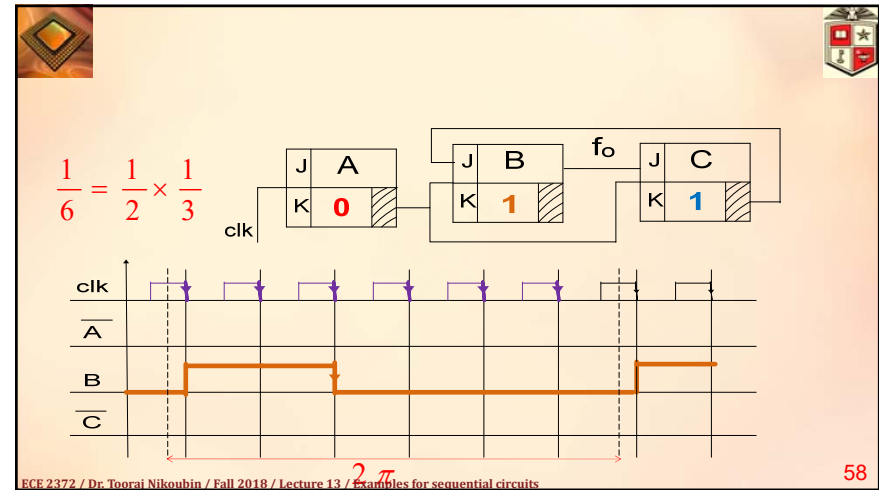
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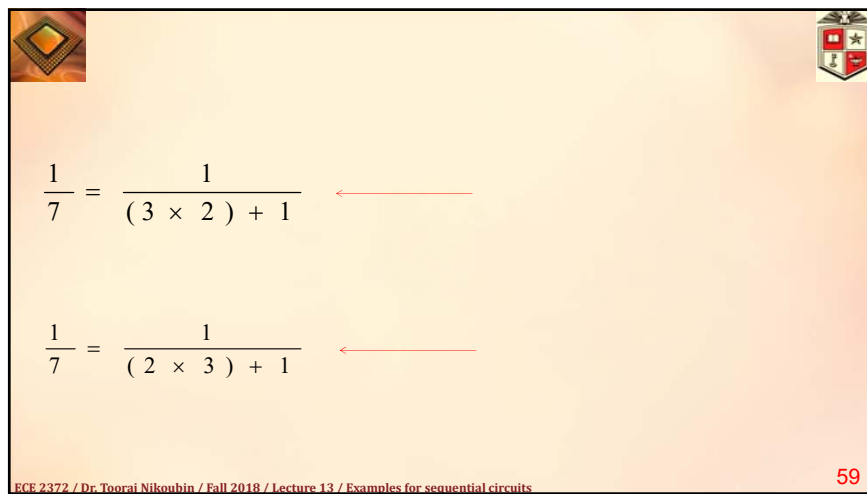




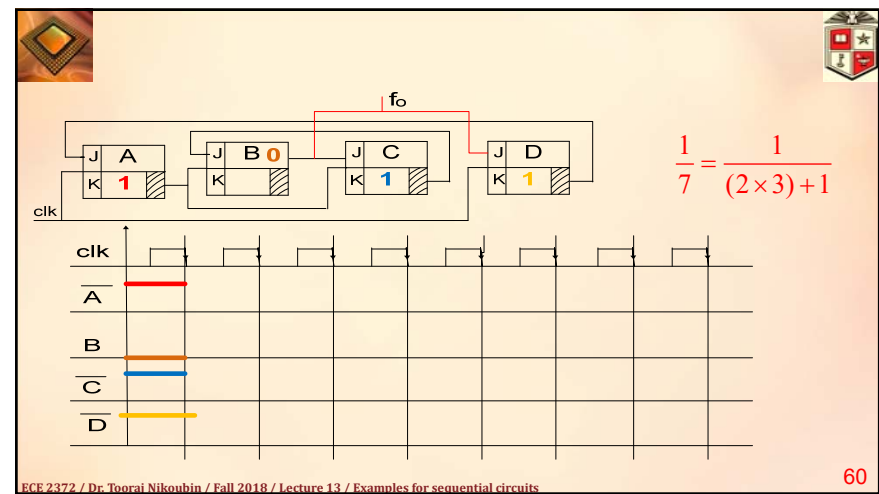
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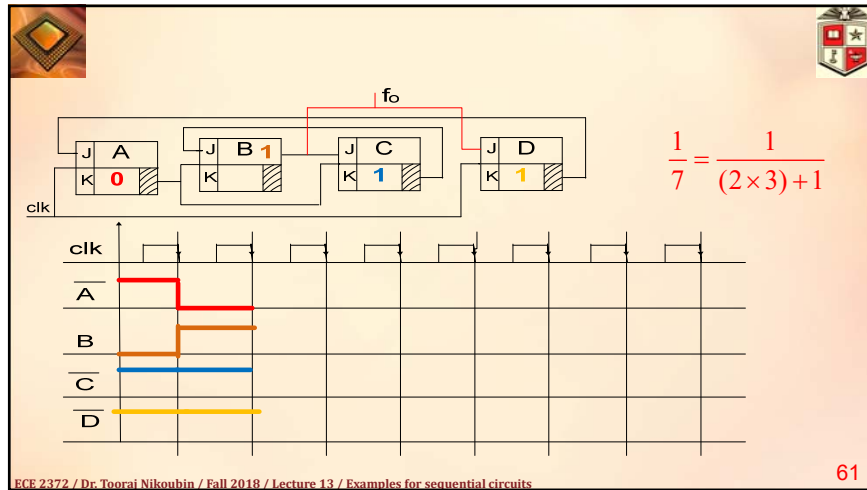
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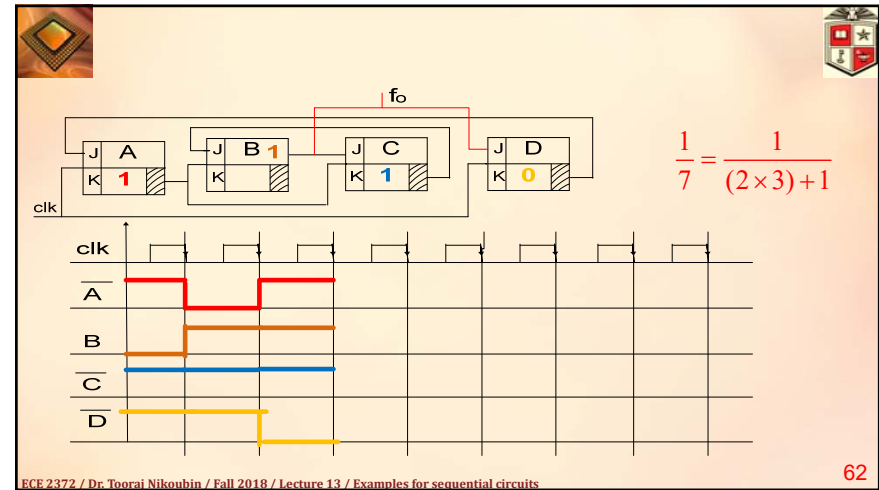
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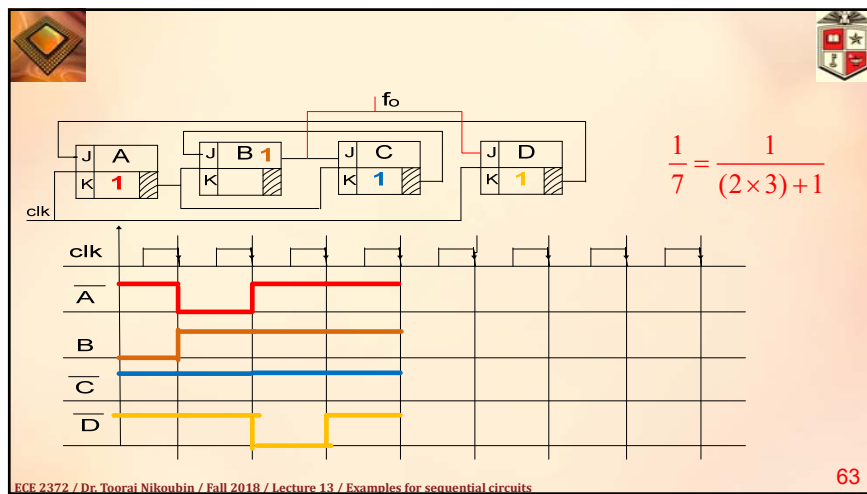
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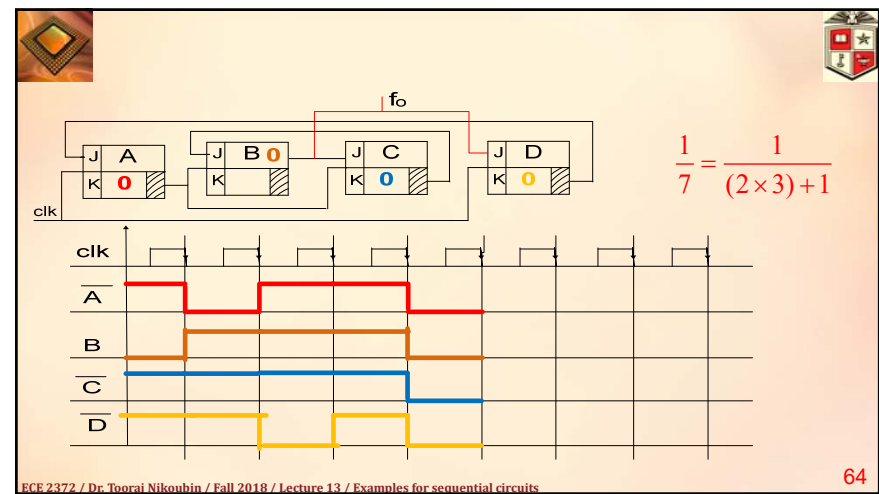
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62



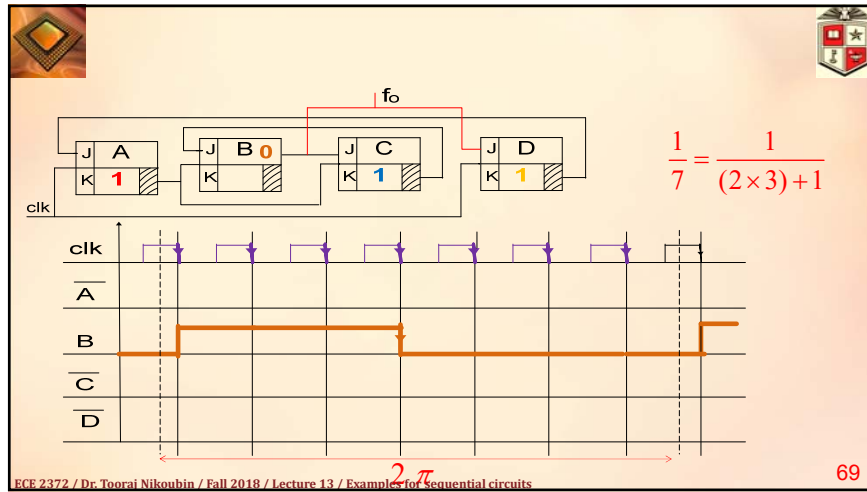
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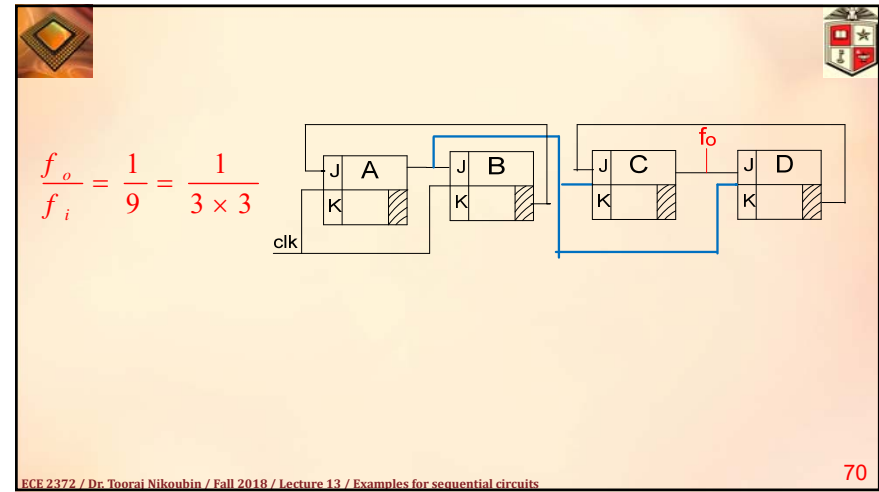
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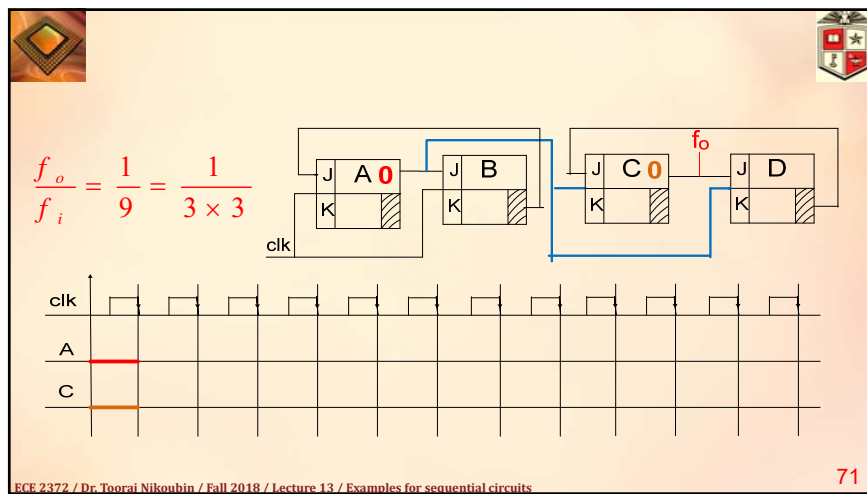




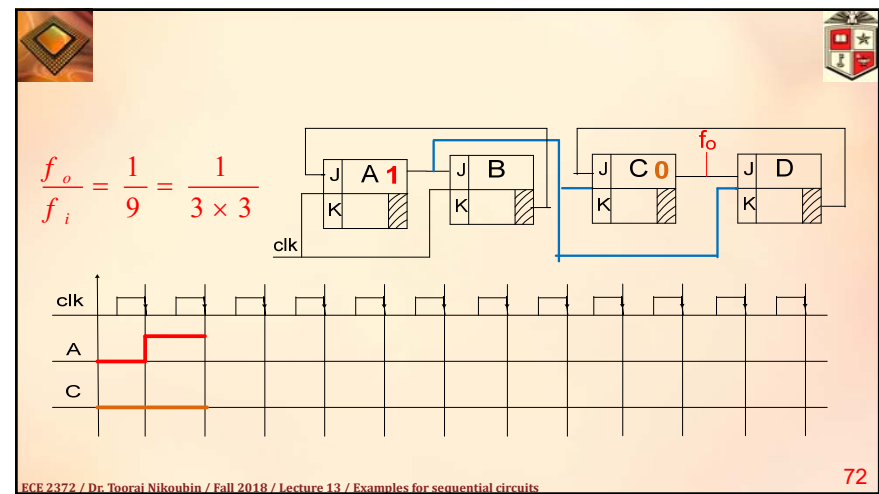
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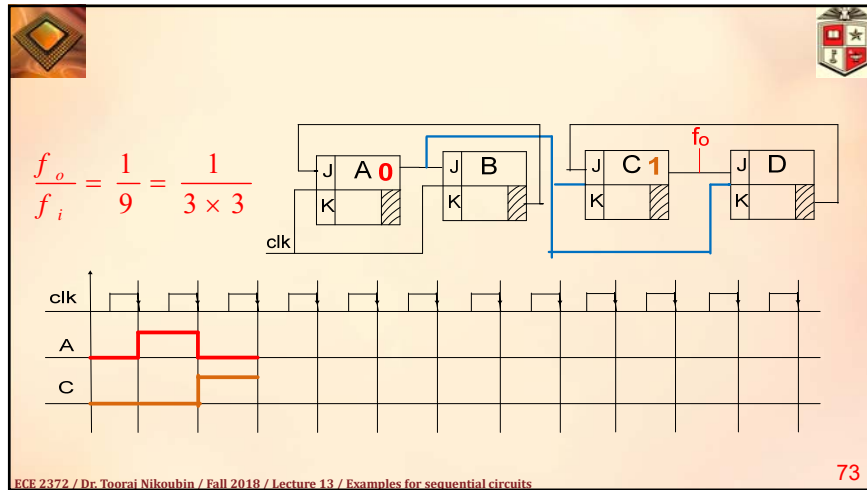
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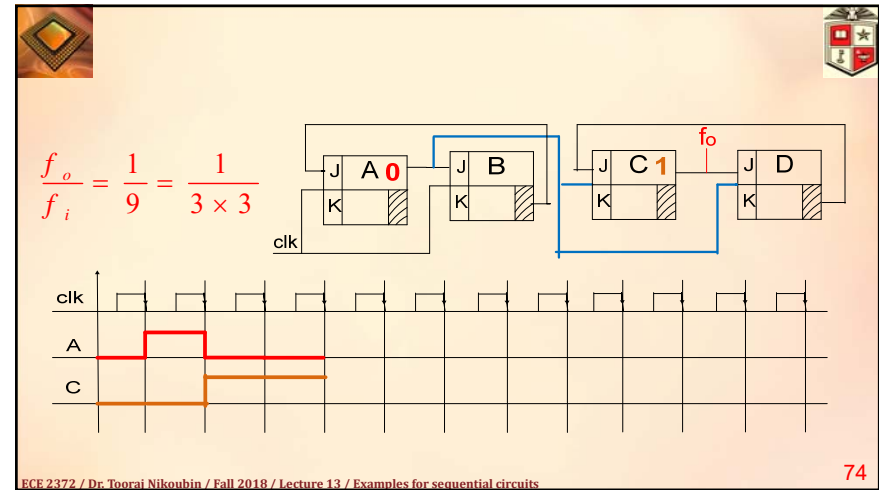
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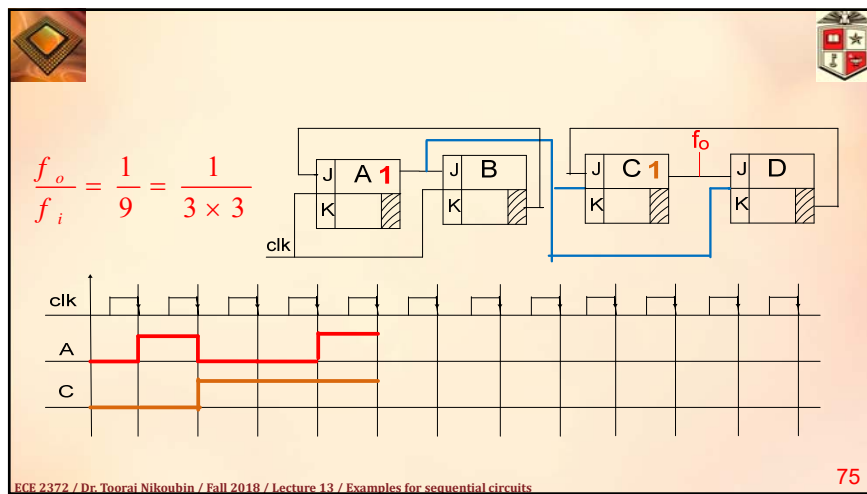
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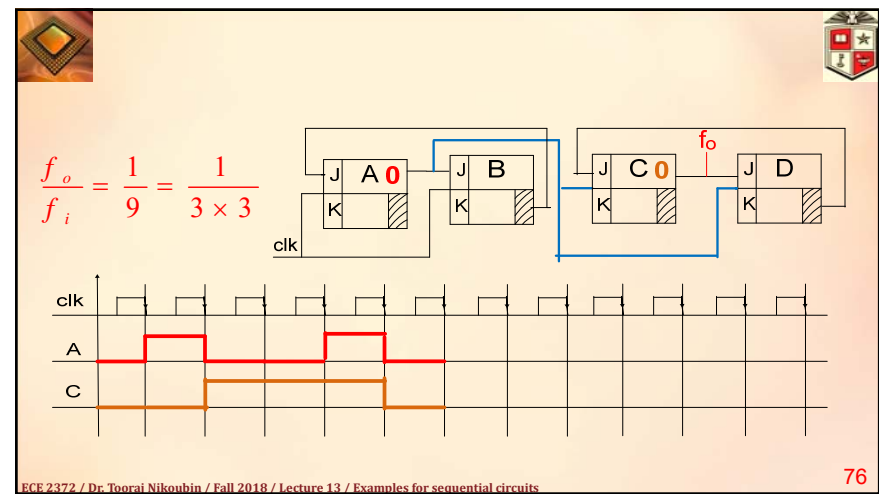
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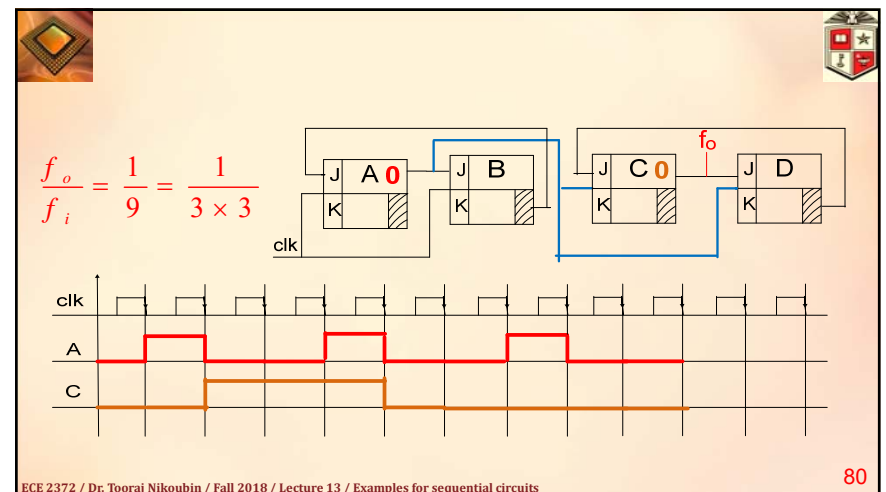
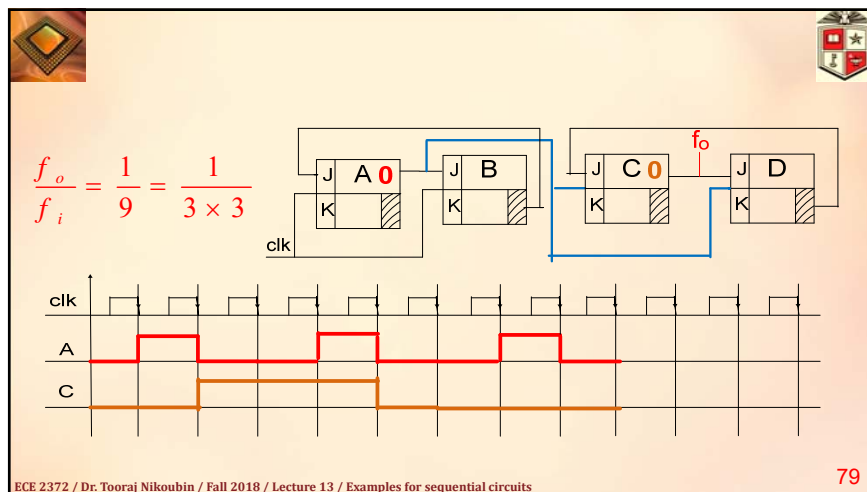
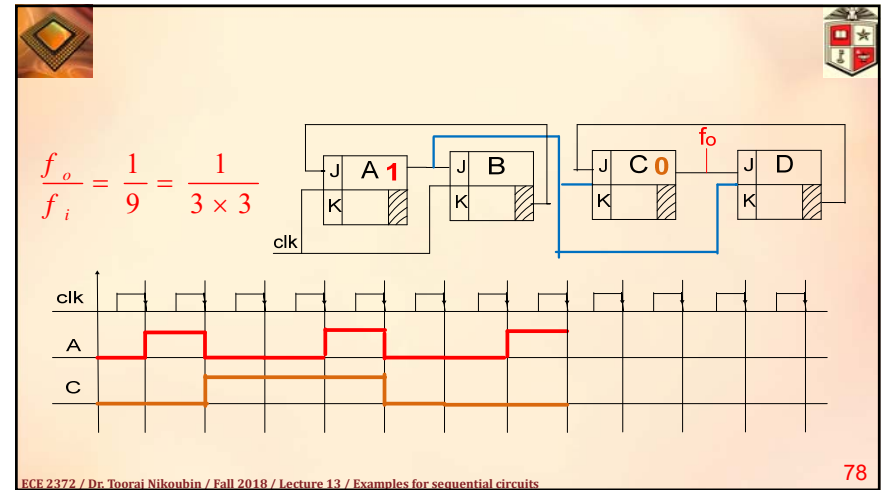
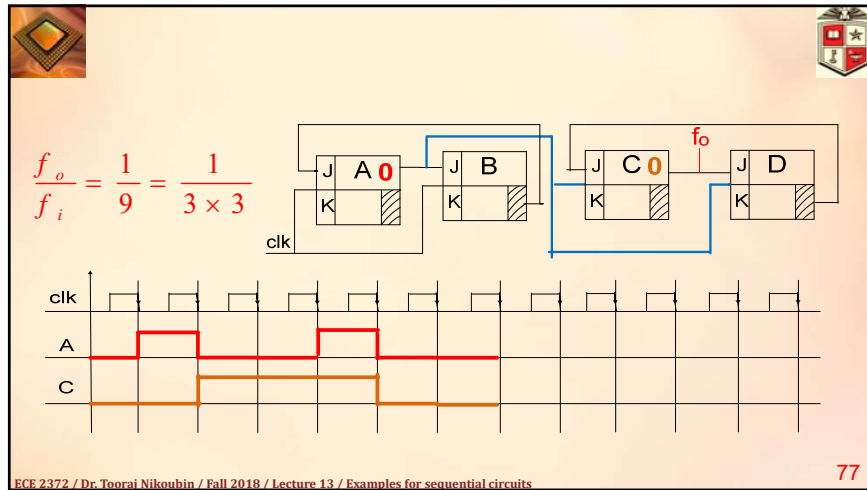
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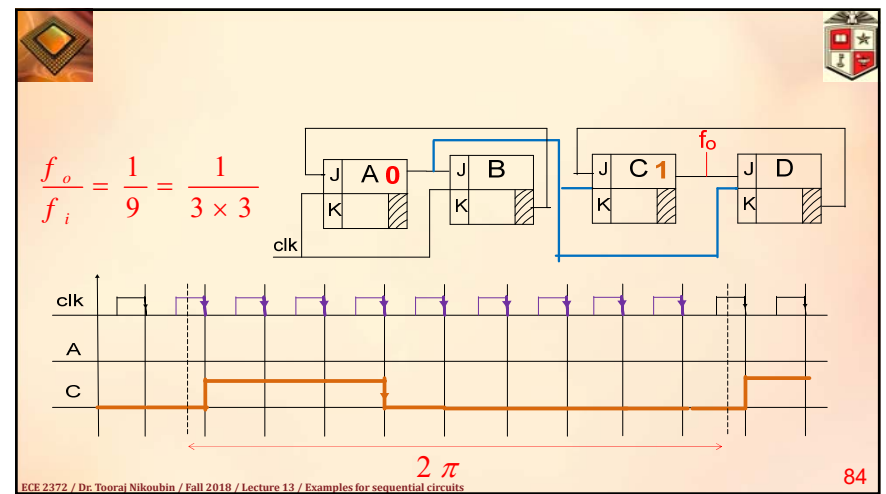
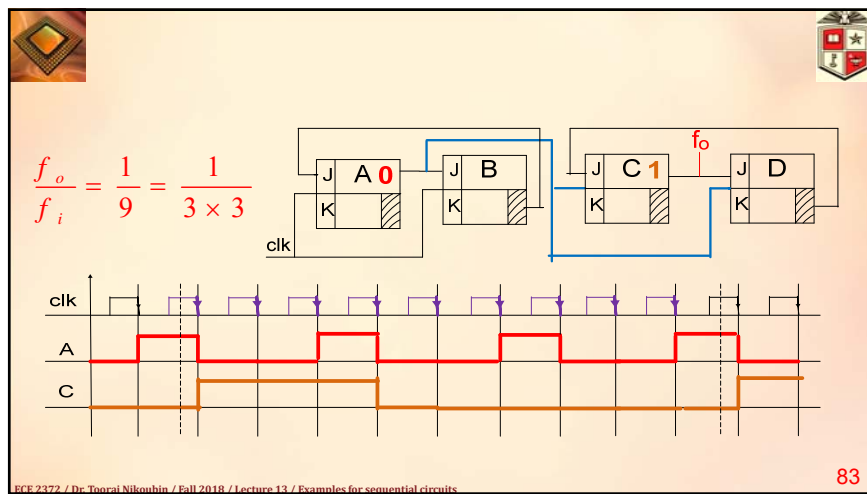
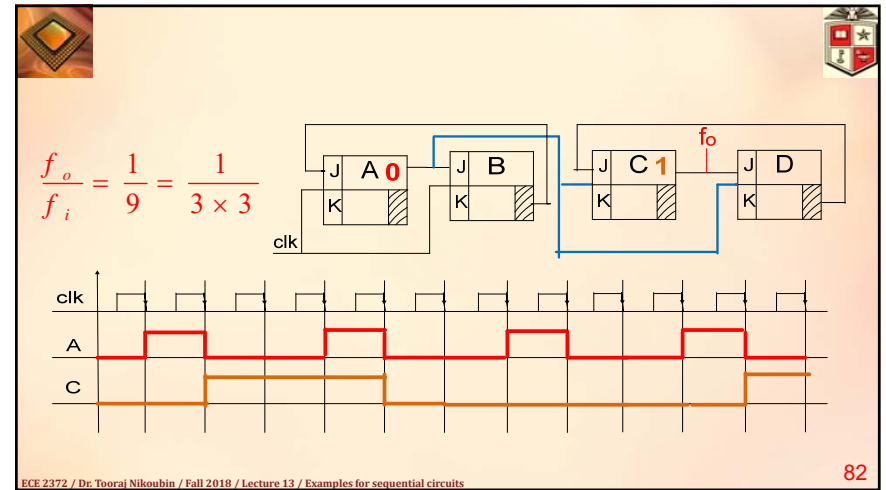
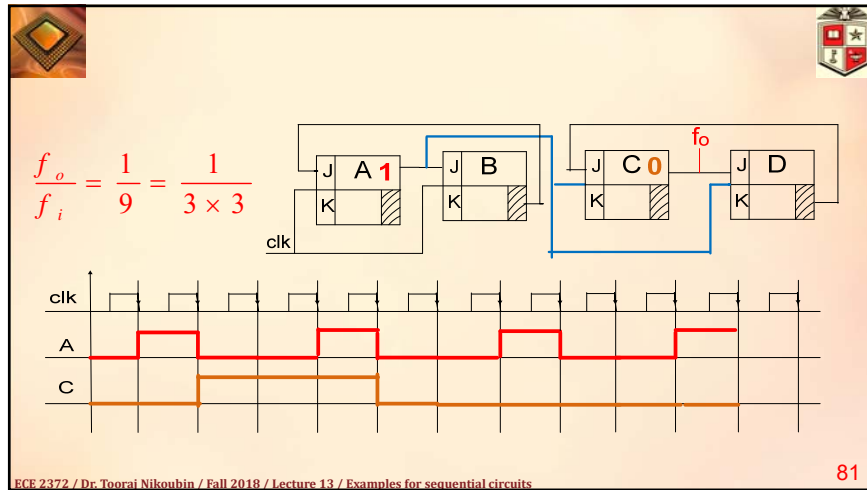


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**THANK YOU**