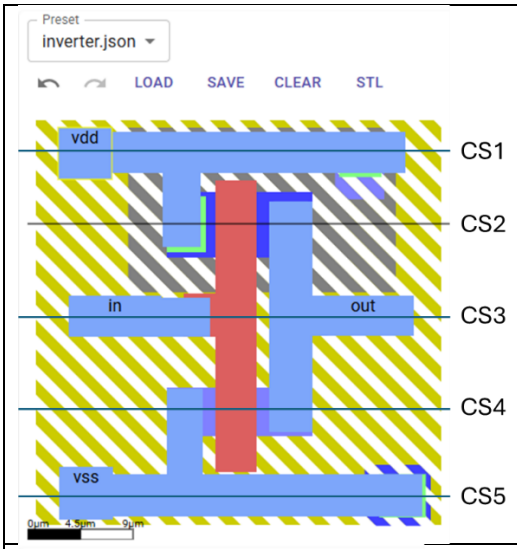
Use the cross-section analysis tool siliwiz (siliwiz.com) to do the following assignment.

<table>
<tr>
<td> 
</td>
<td>Assignment-1: Using the inverter.json layout
1. Draw the cross-section CS1 – CS5 and verify with siliwiz
2. Extract the circuit from the layout with the transistor sizes.
3. Assuming $10\ \Omega$ contact resistance and M1 sheet-rho of $0.1\Omega/sq$, calculate all the parasitic resistance.</td>
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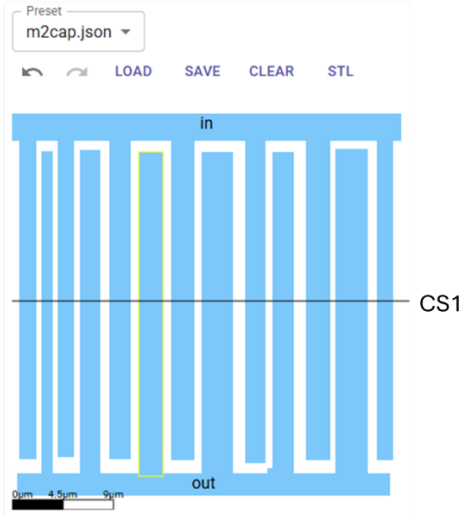
<td> 
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<td>Assignment-2: Using the m2cap.json layout
1. Draw the cross-section CS1 and verify with siliwiz.
2. Calculate the total capacitance between the terminal ‘in’ and ‘out’ with the following input:
a. Thickness of M2 is 0.5um
b. Spacing between M2 is 0.1um
c. Dielectric is Silicon Dioxide</td>
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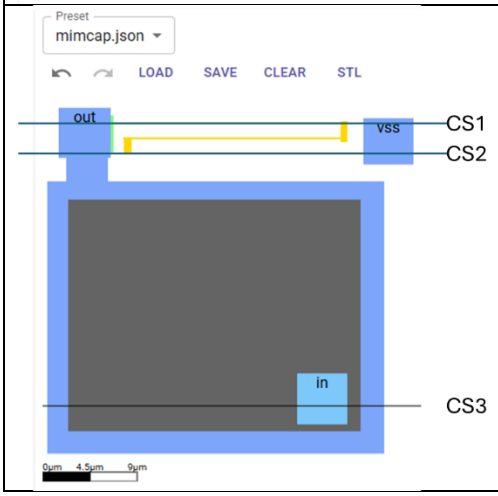
<td> 
</td>
<td>Assignment-3: Using mimcap.json layout
1. Draw the cross-section CS1 – CS3
2. Extract the circuit from the layout.
3. Calculate and R and C of the layout with the following input:
a. The capacitance density of the Metal-Insulator-Metal (MIM) is $1\ fF/\mu m^2$
b. Poly res (yellow) sheet-rho is $200\ \Omega/sq$</td>
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