

Digital AISC Design

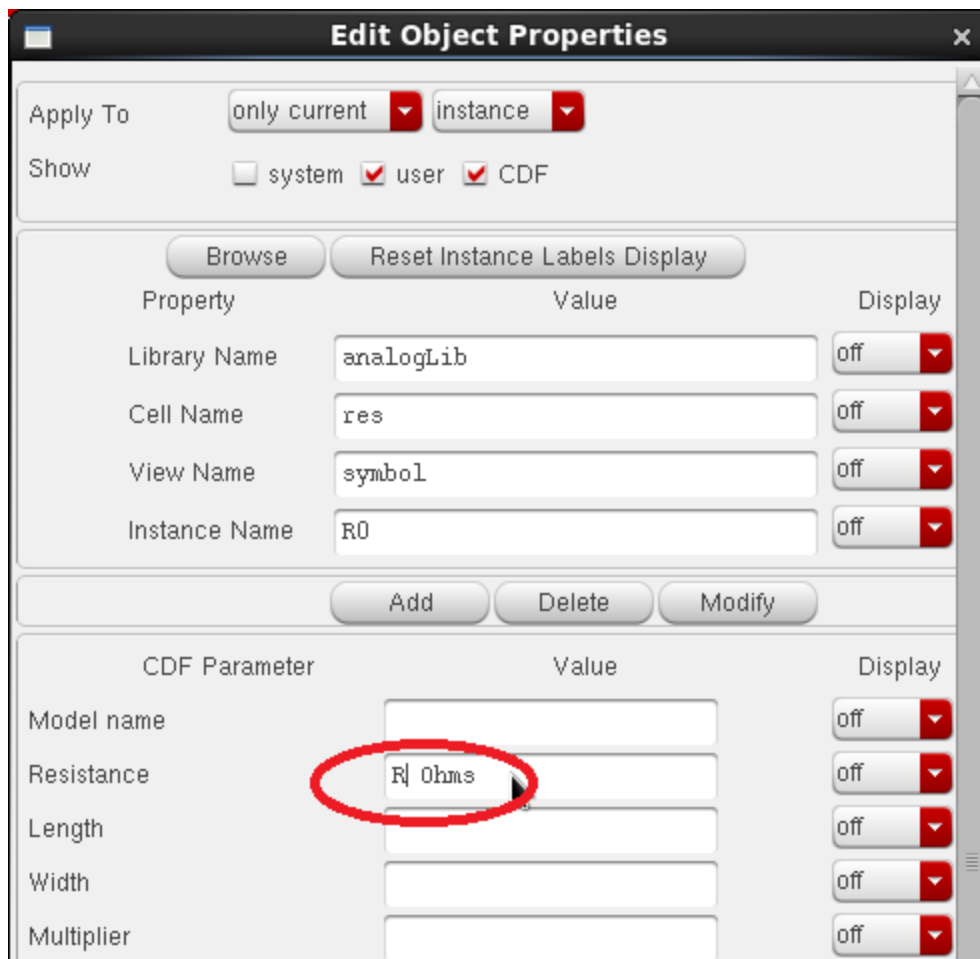
Task 1. Gates NAND/NOR and parametric analysis

Your first task is to design schematic and layout of a two input gate NAD or NOR. Please complete following steps:

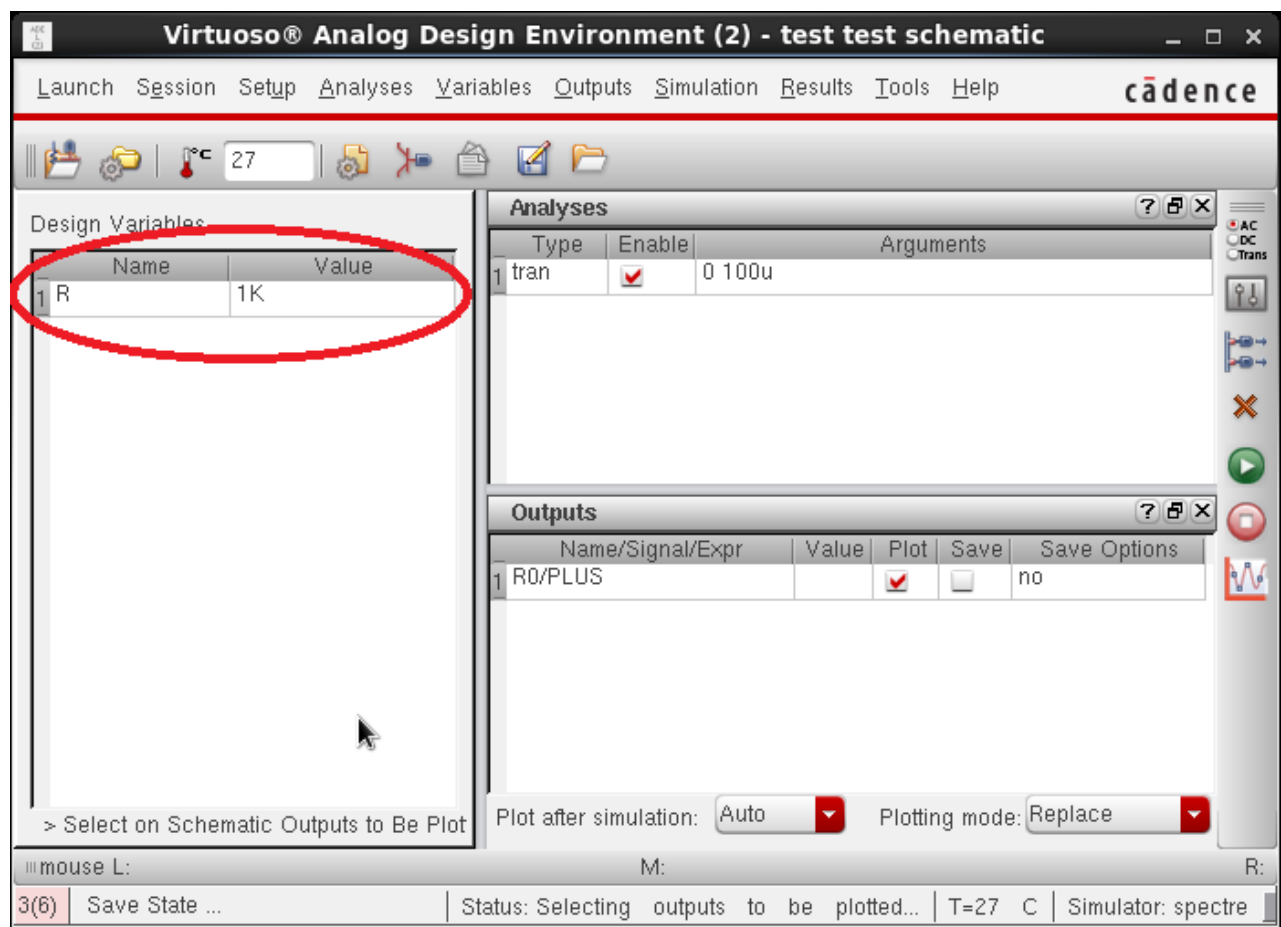
- Design a schematic of your gate. Choose transistors parameter so that you will achieve noise margin as high as possible. Parametric analysis will be helpful.
- Make DC analysis for 3 types of gate driving.
- Make transient analysis and measure following parameters: t_{pHL} , t_{pLH} .
- Design your layout using minimal allowed distances between layers.
- After extraction make transient analysis and measure following parameters: t_{pHL} , t_{pLH} once again, point the differences.

Parametric analysis:

1. Set chosen parameter as variable.



2. In Analog Design Environment L in bracket Design Variables add (right click->edit) your new variable and set its default value.



3. Set up your simulation as you would normally do.
4. Select Tools->Parametric Analysis choose your variable and set parameters for analysis and press Run.

