Setting Delays in Mentor Design Architect

Delays must be set for each component that we use in the schematic. The values that can be defined for each component and the Output Rise and fall delays. This is indicated near each output pin of the component. Both the Rise and Fall delays must be set to the same value, unless otherwise indicated.

To set the delays, you must change the properties of the delay. The simplest way to do this, is to move the cursor over the text (‘0’ in this case), and press ‘Shift + F7’ key combination. This is similar to setting the names of the ports (portin & portout). Make sure that the value you enter is a valid numeric entry.

Eg.

Note:

1: **Flip-flops.**

For flip-flops, the output rise and fall delays can be set in the same way as in the case of the other components. The values for setup and hold time cannot be set, for the component library that we use. But, if the input changes at the same time the clock changes, the new input value will not be held. Make sure the input changes before the clock changes.
2: Tri-state Buffers (buf.3so)

For tri-state elements, you can set the delays for the outputs going from $Z \Rightarrow 0$, $0 \Rightarrow Z$, $Z \Rightarrow 1$ and $1 \Rightarrow Z$. All the delays must be set the same, unless otherwise indicated. For more information read the documentation pages.

3: Mentor Components Documentation.

There is an extensive collection of online documentation for the Mentor tools, and the components that we use (gen_lib). Consult this documentation first if there are doubts about a component. The on-line help is found by –
- Choose the help menu option,
  o Select Open Book case
    - Select PCB Systems,
      • Select Design Architect,
        o Component Library databook, gen_lib parts.

Final Note –

It is advised to set the delays for the components as and when you insert them into the schematic. If you forget to set the delay on some of the components, you may have temporary unexpected behavior of your output signals.

In the future, delays for each component will be given in the problem description of homework or project.