LAB 6. Register 4: a 16-bit Loadable Register with Set / Reset, 0x4000 reset

In this lab we will construct a special version of a 16-bit version of the loadable register with set / reset. For our register file, we want a specific register (Register 4) that is able to be reset to a specific value: 0x4000.

The overall goal of this register is that, when this circuit's RESET input signal is asserted, we want this 16-bit register to have the value 0x4000 (0100 0000 0000 0000).

To do so, we want to connect the Reset line to the reset DFF input for all but bit 14. For bit 14, connect Reset to the set input. Then tie all unused set and reset inputs for all FFs to ground. This gives us the signals:.

SetBitsforData[15:0]	0100 0000 0000 0000
ResetBitsforData[15:0]	1011 1111 1111 1111

Which sets the register to the right values, when RESET is asserted.

Remember to load your "/user/srloadablereg" and other "/user/" modules if you use them. The solution for the loadable register with set/reset is also available in the parts bin.

The icon for this circuit, "/user/regfile_reg4", also appears in the parts bin. Don't use that or you'll get a "recursive

inclusion of module" error!

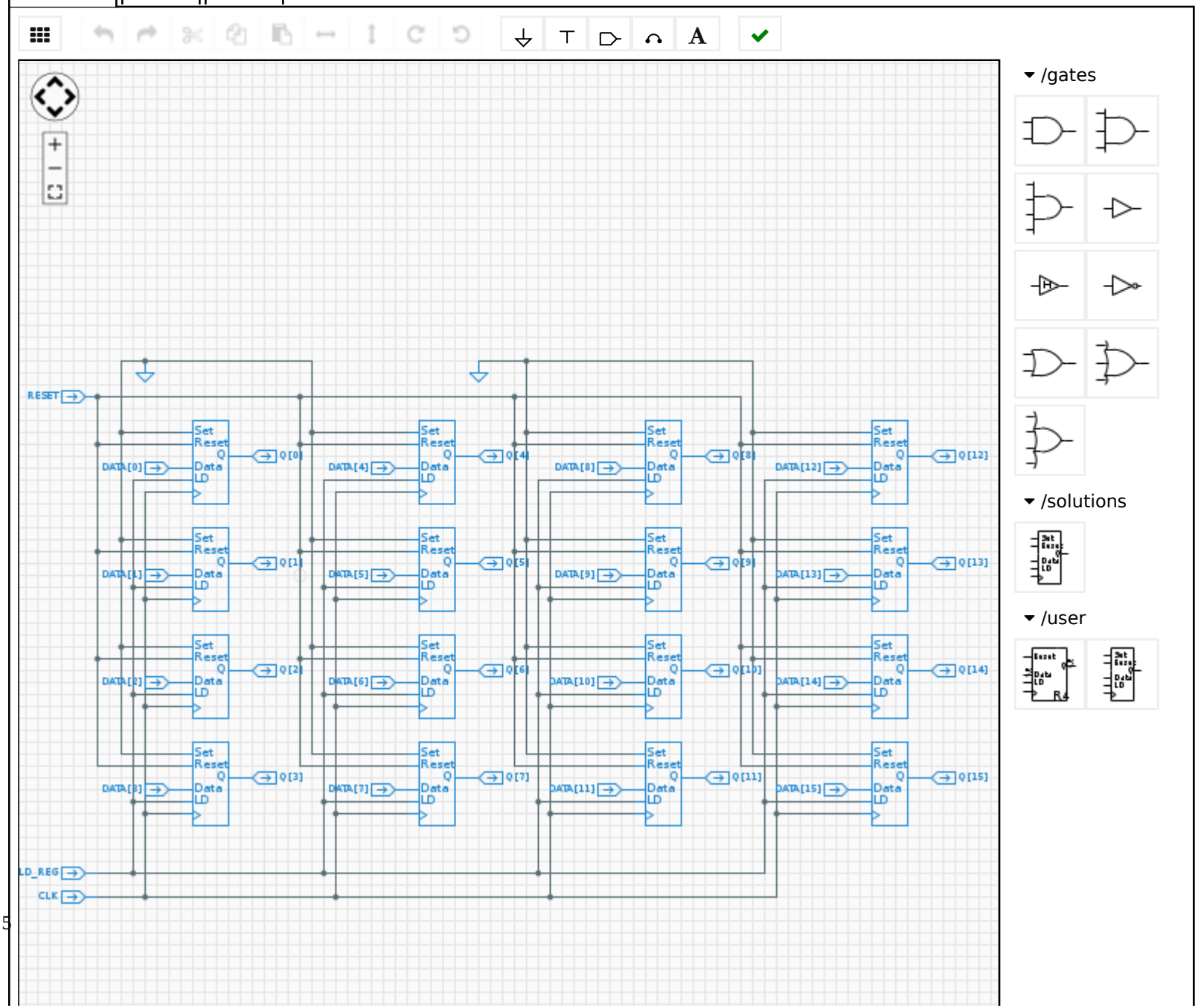
Test it, save it, and submit it to edX via the check button.

Help

REGISTER 4 (1/1 point)

Module: /user/regfile_reg4

SCHEMATIC | ICON | TEST



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