Sequential double-dabble

You need to be alert to (usually minor) changes that may be made to the assignment statement or to the guidelines after the assignment is first put up. Refresh this frame and re-read the assignment carefully before you make your final submission.

Part 1 (D-FF)

- Design a D-FF with preset and clear inputs to work either on the positive edge or on the negative edge of the clock
- Test that it works by applying appropriate inputs and checking the outputs
- Label the terminals to reflect their roles
- Save it as a regular circuit (logic file), reopen and retest
- Save it as a component (cmp file), reopen and retest

Part 2 (Shift register with parallel load)

- Design a shift register to shift from the LSB to MSB; it should also have the facility for parallel load for each nibble to able to add three to nibbles which exceed four; this is to be done using 2-1 muxes
- Test that it works by applying appropriate inputs and checking the outputs
- Label the terminals to reflect their roles
- Save it as a regular circuit (logic file), reopen and retest
- Save it as a component (cmp file), reopen and retest

Part 3 (7-bit binary to BCD convertor)

- Using the modules from the earlier experiment on conditional double-dabble and those designed above, design a combinational 7-bit binary to BCD convertor
- Test that it works by applying appropriate inputs and checking the outputs
- Label the terminals to reflect their roles
- Save it as a regular circuit (logic file), reopen and retest

Marking guidelines

Assignment marking is to be done only **after** the deadline expires, as submissions gets blocked after the assignment is marked. Enter the breakup of marks while marking.

D-FF	
Correctly working circuit	**6**
Labels	**2**
Saving and component creation	**2**
Shift register	
Correctly working circuit	**6+6**
Labels	**2+2**
Saving and component creation	**2+2**
7-bit binary to BCD convertor	
Correctly working circuit	**7**
Circuit diagram and explanation	**3**
Total Marks	***40***

Assignment submission

A PDF report, as appropriate, should be submitted. Submit all your files together.

Use electronic submission via the WBCM link

You should keep submitting your incomplete assignment from time to time after making some progress, as you can submit any number of times before the deadline expires. **You should submit all your files together**.

Warning

Cases of copying will be dealt with seriously and severely, with recommendation to the Dean to de-register the student from the course.