CS2100 Logic Circuit Guidelines

This is a quick guide on the expected standard of all logic circuit drawing in CS2100. Make sure you follow the guideline while giving answers for the lab and final assessment.

- Please write and draw clearly and neatly. You may use pencil for logic diagrams. Untidy writing or drawing will be penalized.

- Please draw <u>large and neat</u> circuit diagrams. See some real students' samples below.
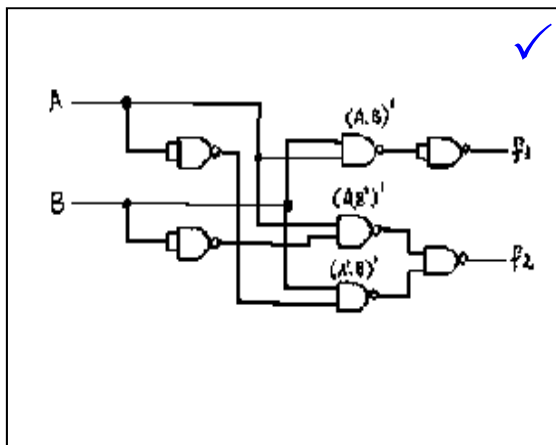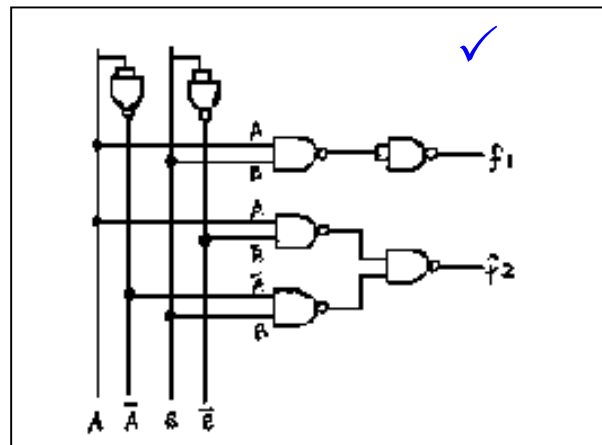

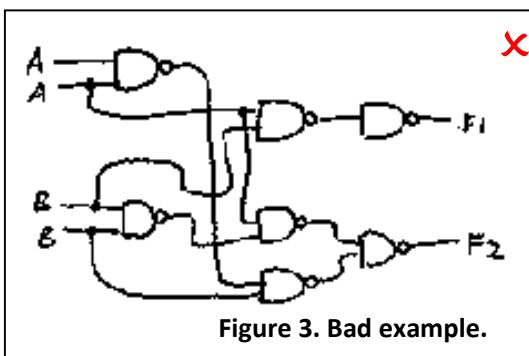**Figure 1. Good example.**

Figure 2. Good example.
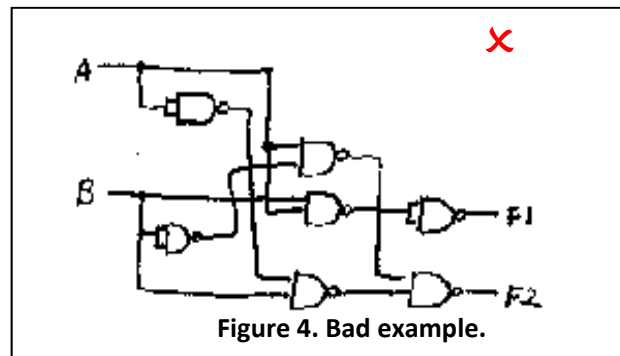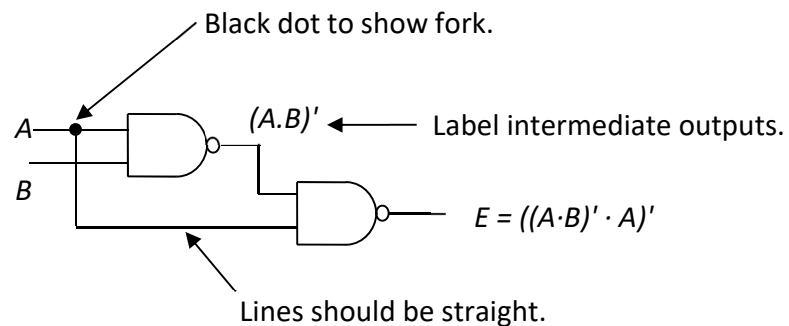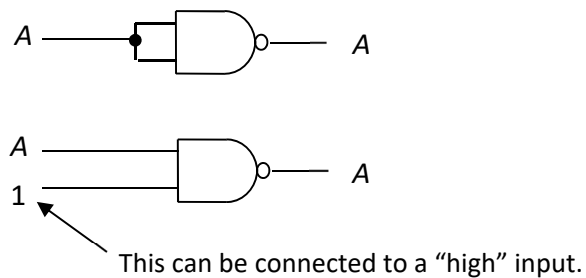

Figure 3. Bad example.

Figure 4. Bad example.

- For logic diagrams, all lines should be <u>straight</u>. All inputs, outputs and intermediate outputs should be labeled, as shown in Figure 5. Use black dot to indicate a fork.

Black dot to show fork.

A

$(A.B)'$ ← —— Label intermediate outputs.

B

$E = ((A \cdot B)' \cdot A)'$

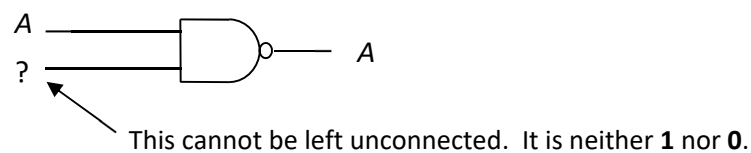Lines should be straight.

Figure 5.

- All inputs of a gate must be fed with some value. <u>You should not leave any input unconnected</u>. For example, to use a 2-input NAND gate as an inverter, here are two correct methods:

A —— A

A

1

This can be connected to a "high" input.

Figure 6.

But this is wrong:

A

$?$ —— A

This cannot be left unconnected. It is neither **1** nor **0**.

Figure 7.

~~~ **End of Guide** ~~~