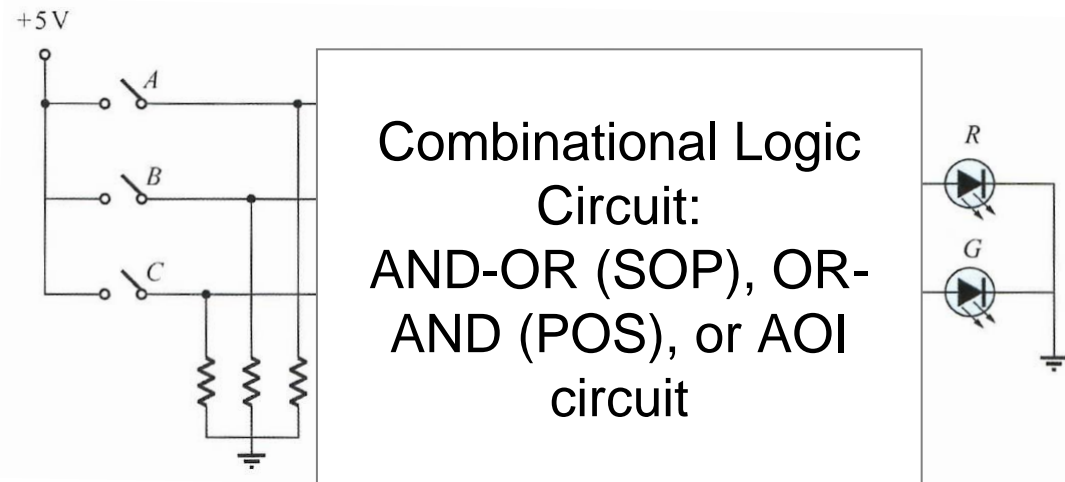# Lab 4 – Part 1

- Design a combinational circuit to solve the following question:
  - There are three switches (A, B, and C), one green LED, and one red LED.
  - When the power is on,
    - The red LED is off and the green LED is on when none or one of the switches is on.
    - The red LED is on and the green LED is off when two or three switches are on.

Report 4 – Part 1

- 填寫組員姓名、學號－格式不限
  - 使用AND-OR (SOP)、OR-AND (POS)或AOI電路解決 Part 1 的問題並完成下圖中電路 (並標出所使用的IC編號，及導出邏輯線路的過程)。
  - 說明所採用的電路及 採用的原因。
  - 實驗心得。

Combinational Logic Circuit:
AND-OR (SOP), OR-AND (POS), or AOI circuit

Lab 4 – Part 2

- Design a combinational circuit to solve the following question:
  - There are three switches (A, B, and C) and one LED.
  - When the power is on,
    - The LED is on when any two or more adjacent switches are on at the same time (i.e., A B on, B C on, A B C on).
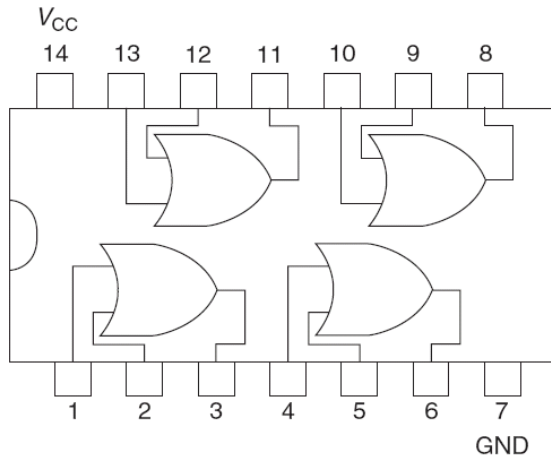   - Otherwise, the LED is off.

Report 4 – Part 2

- 使用ALL-NAND 或 ALL-NOR電路解決 Part 2 的問題並完成下圖中電路 (並標出所使用的IC編號，及導出邏輯線路的過程)。

- 說明所採用的電路及
採用的原因。

- 實驗心得。

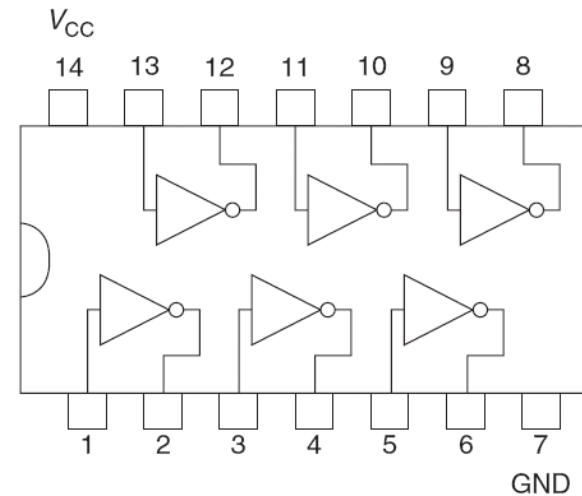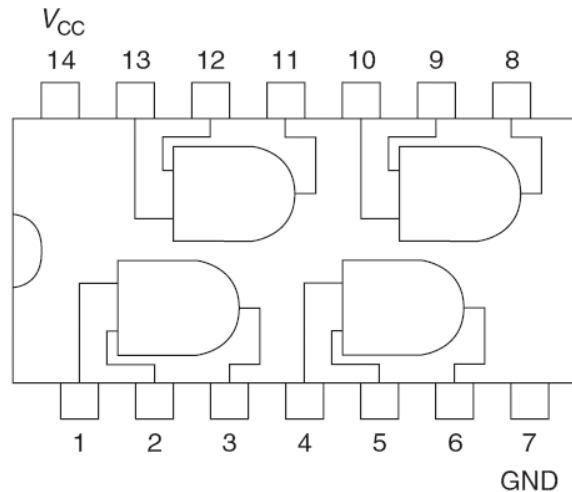+5V

A

B

C

Combinational Logic Circuit:
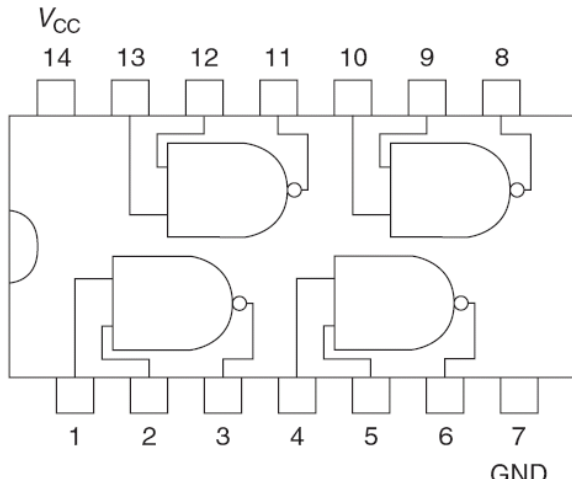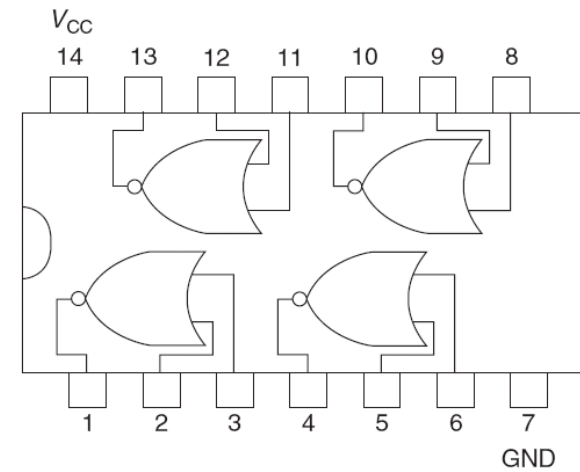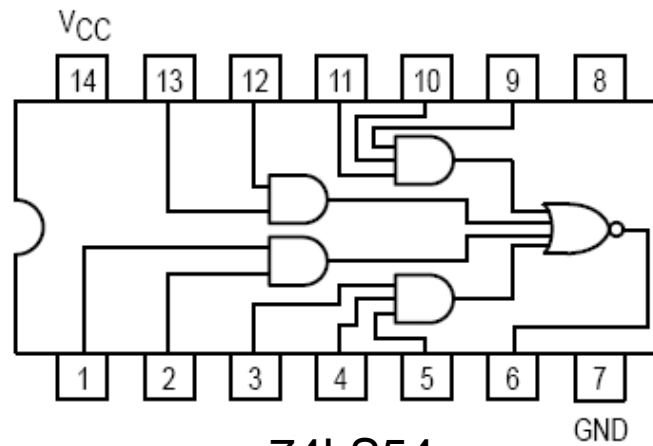ALL-NAND or ALL-NOR circuit

F
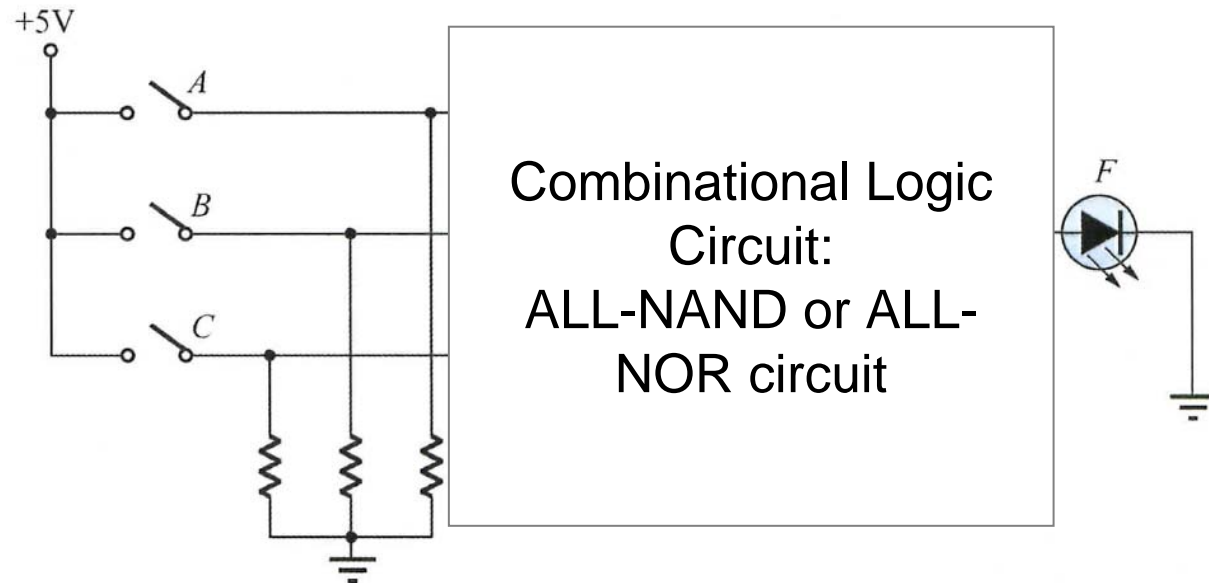
Chip Logic Circuit

74LS32

74LS04

74LS08

Chip Logic Circuit (Cont.)

74LS00

74LS02

74LS54