VLSI 實驗

Lab1

Environment setup
(王柏蒼修改20160920)

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莊瑷嘉 **AIC Lab.**

在個人資料夾按右鍵 → 開啟終端機

1. 進到Data_in_teacher資料夾
   指令 "cd Data_in_teacher"

2. 查看Data in teacher裡面有無cic18資料夾
   指令"ls"

3. 創立自己學號資料夾，並複製cic18資料夾，
   到學號資料夾下。
   指令"mkdir ~/學號"
   指令"cp –r cic18~/學號/"

4. 輸入"source ~/work.cshrc"

5. 選a，按Enter

6. 進入cic18資料夾
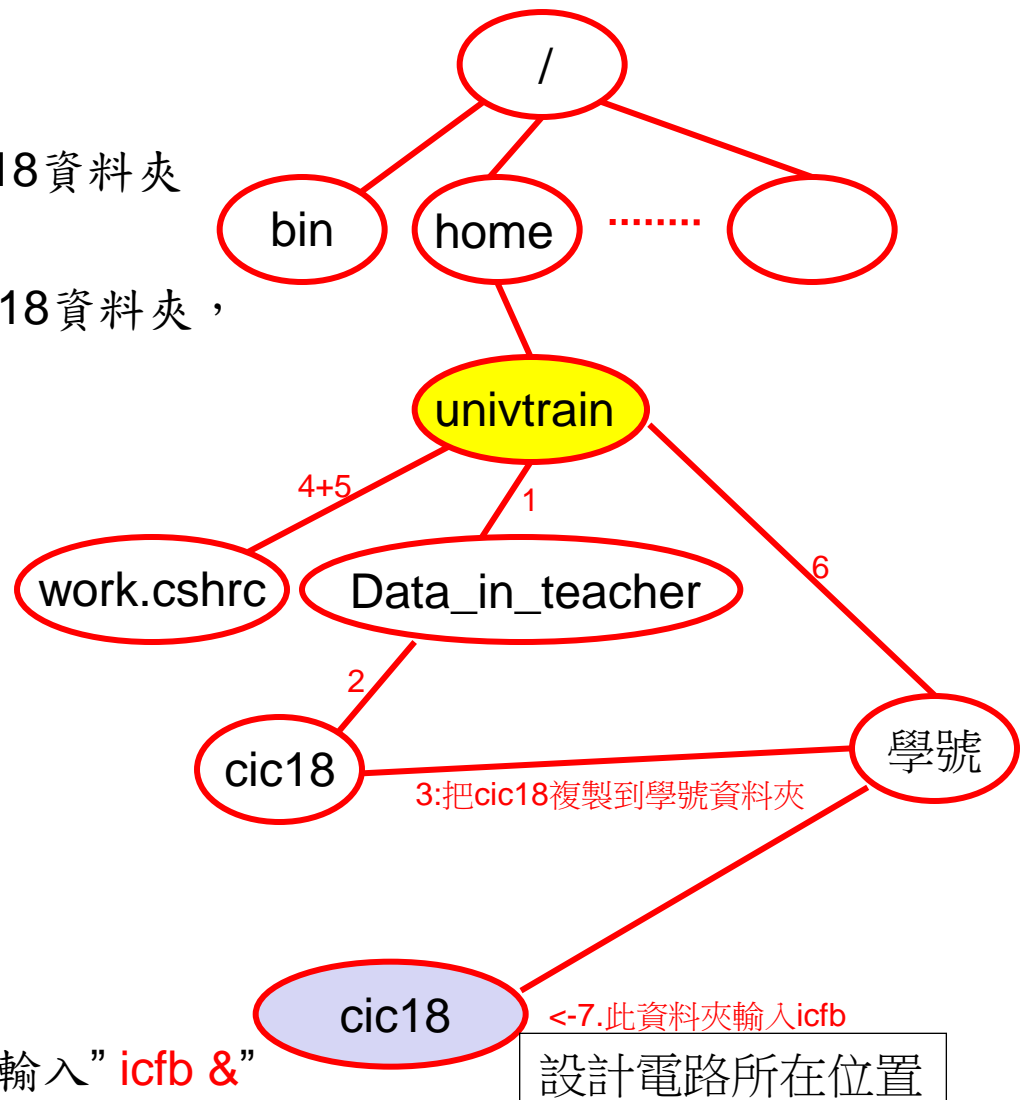   輸入"cd ~_/學號/cic18"

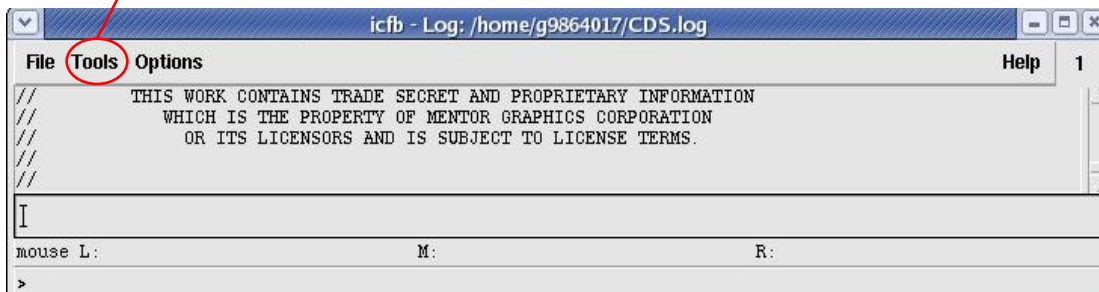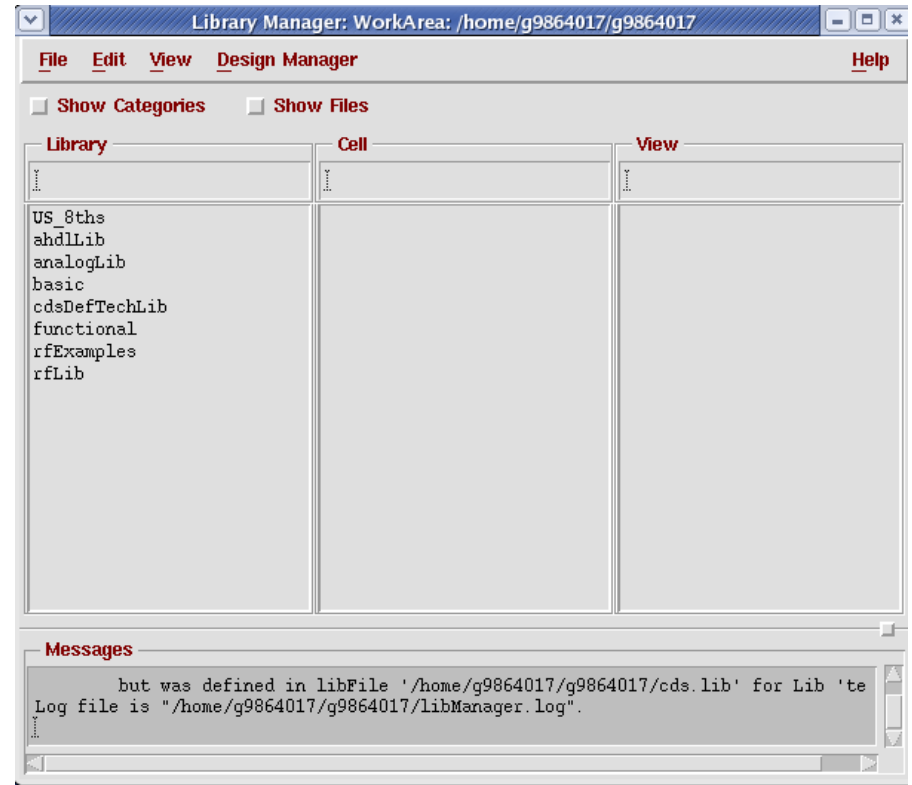7. 輸入"icfb &"

p.s. 以後登入後只需要

1. 輸入"source work.cshrc"(選a)

2. 輸入" cd /學號/cic18"   3. 輸入" icfb &"

```
              /
         ╱    │    ╲
      bin   home   ........  ◯
              │
          univtrain
       4+5 ╱   │1     ╲6
  work.cshrc  Data_in_teacher      學號
                  │2
                cic18          3:把cic18複製到學號資料夾
                                      │
                          cic18  <-7.此資料夾輸入icfb
```
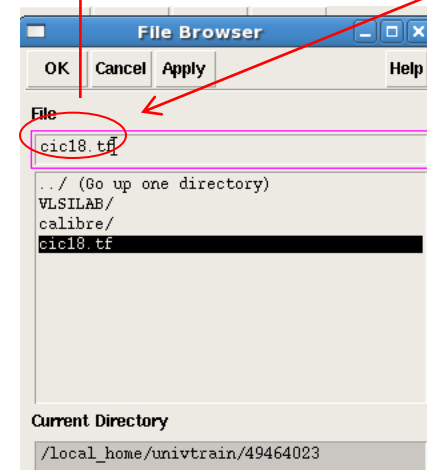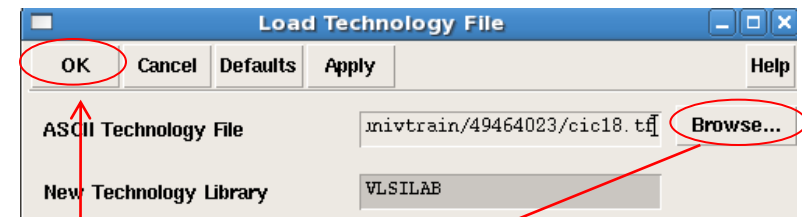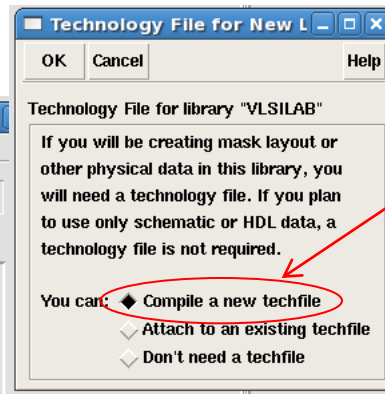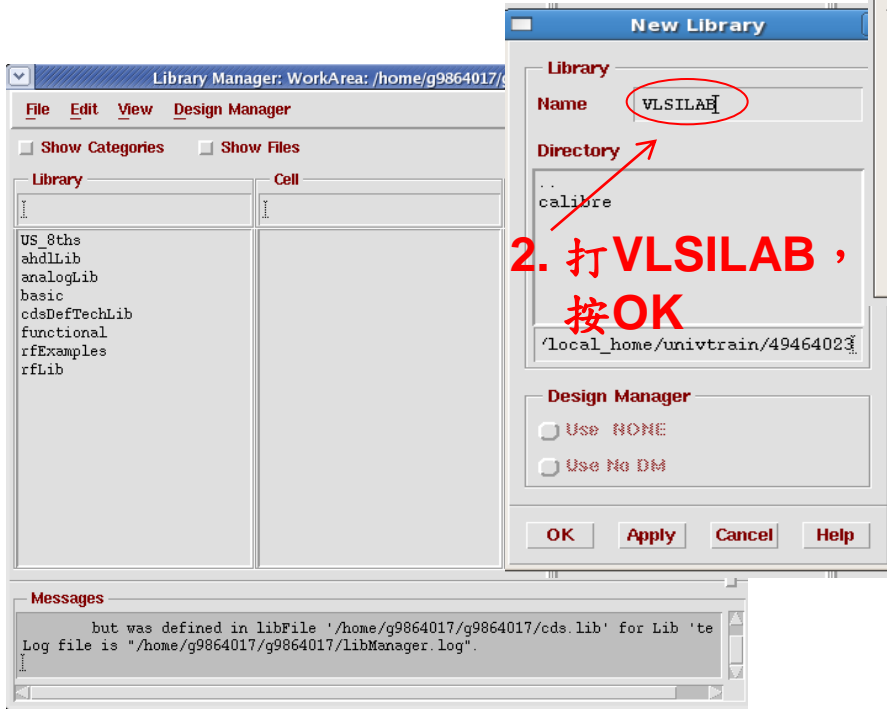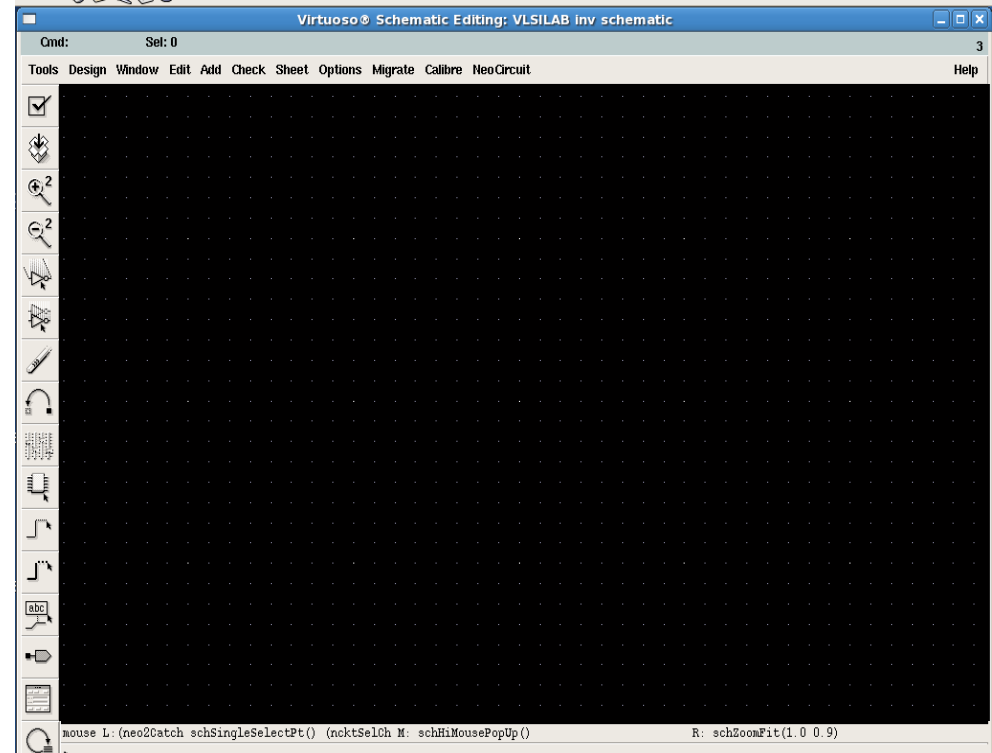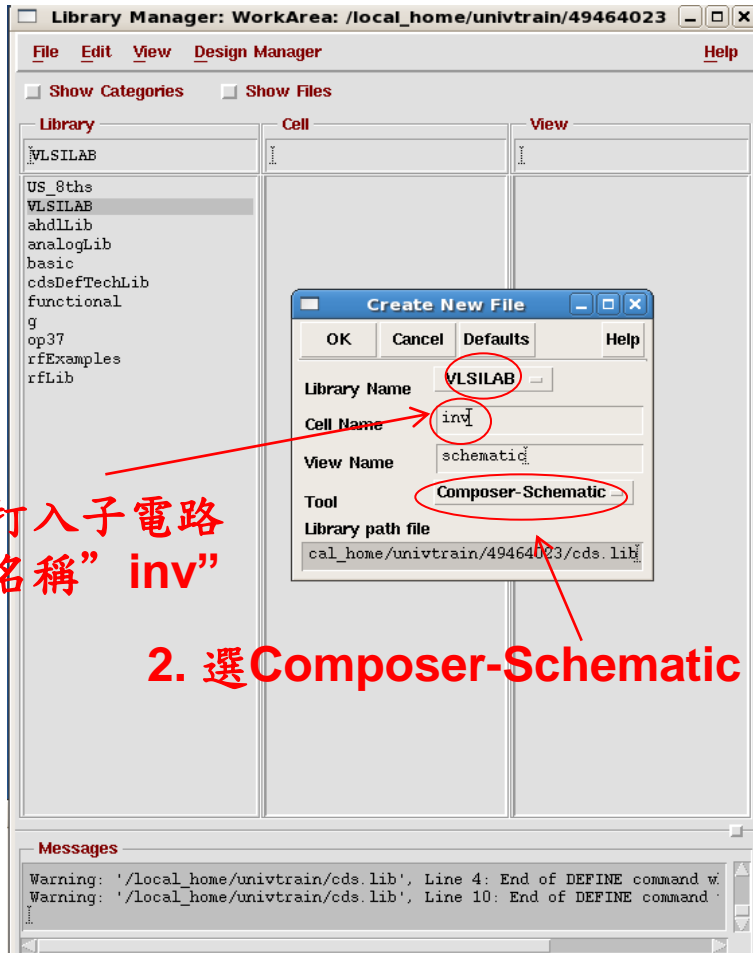
設計電路所在位置

建Library(1/2)

- **Tools → Library Manager…**

建Library(2/2)

1. 點選File → New → Library…

3. 點選Complie a new techfile，按OK

2. 打VLSILAB，按OK

4. 點選Browse，選取cic18.tf，按OK

5. 成功建立Library

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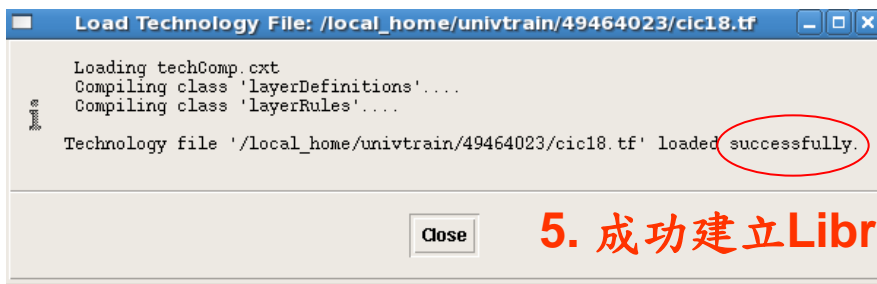
新增Schematic(1/4)

1. 點選VLSILAB，接著再點選File → New → Cell View…

3.打入子電路 名稱"inv"

2. 選Composer-Schematic

新增Schematic(2/4)

- **指令Icon**

儲存(快速鍵：Shift+s)	屬性(快速鍵：q)
放大2倍(快速鍵：])	Pin(快速鍵：p)
縮小2倍(快速鍵：[)	Line
擴展(快速鍵：m)	Rectangle
Copy(快速鍵：c)	Label(快速鍵：l)
移動(快速鍵：m)	Selection Box
刪除(快速鍵：del鍵)	Cmd option
Undo(快速鍵：u)	Repeat(快速鍵：Shift+u)

新增Schematic(3/4)

1.增加元件，按熱鍵 "i"

2. 按**Browse**選取元件

5. 點一下即可出現nmos4

4.設定電晶體的長、寬

3.選取**analogLib→nmos4→symbol**

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新增Schematic(4/4)

建立symbol(1/2)

1. Design → Create Cellview → From Cellview
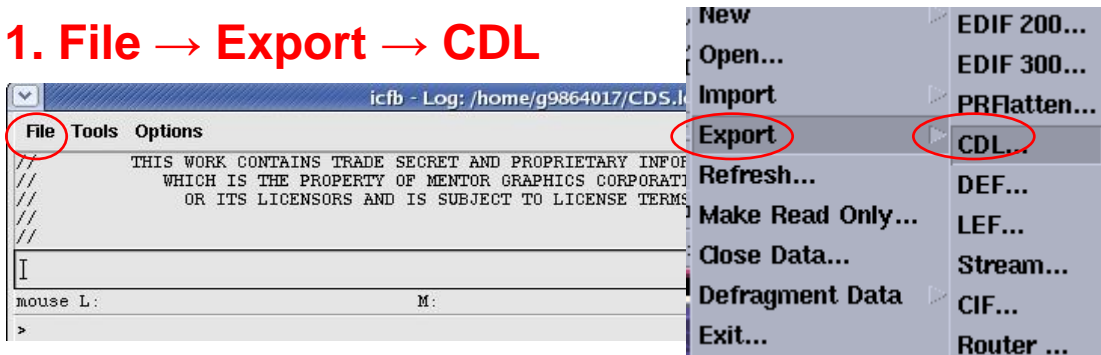
建立symbol(2/2)

可以畫自己想要的形狀

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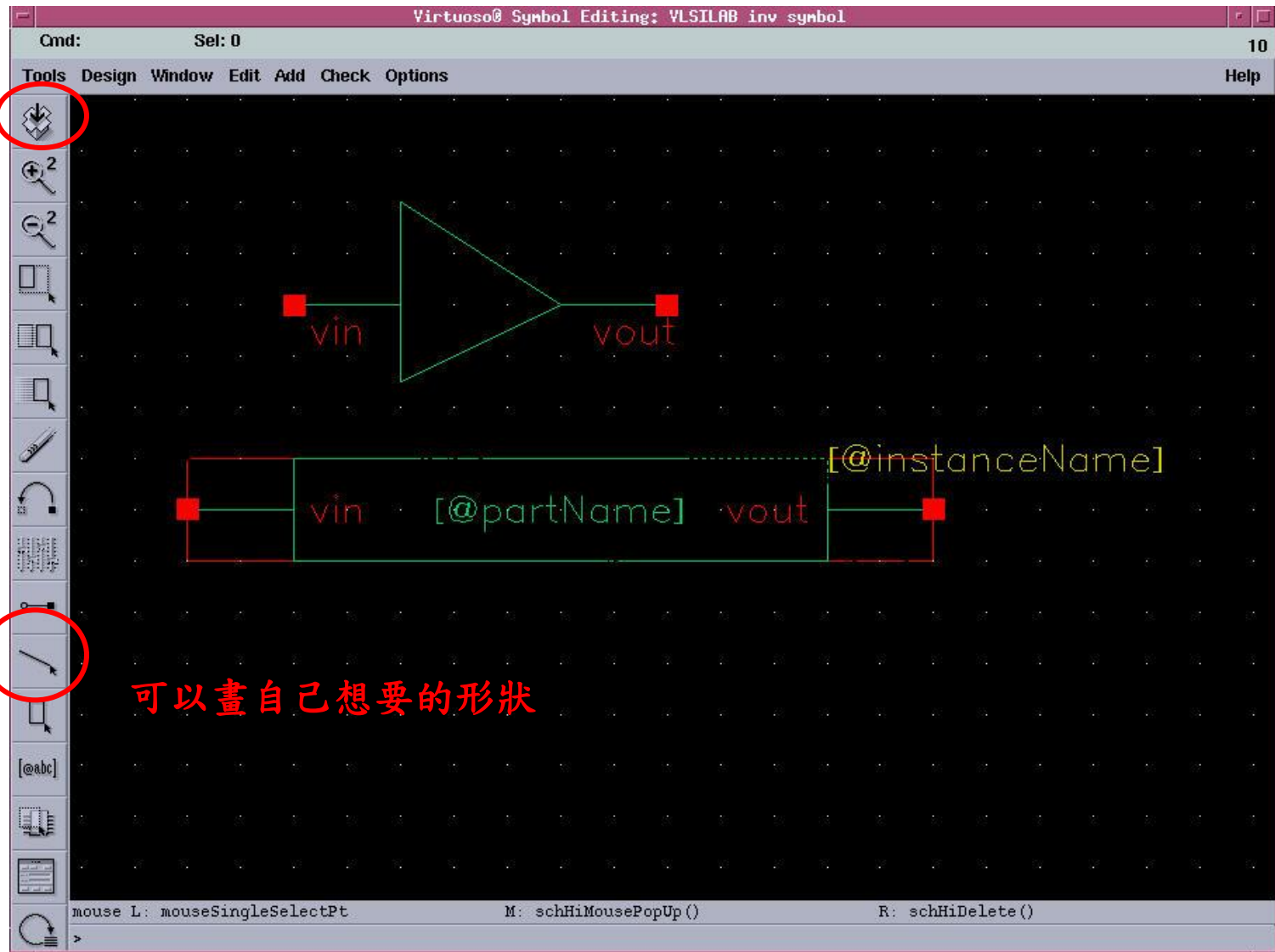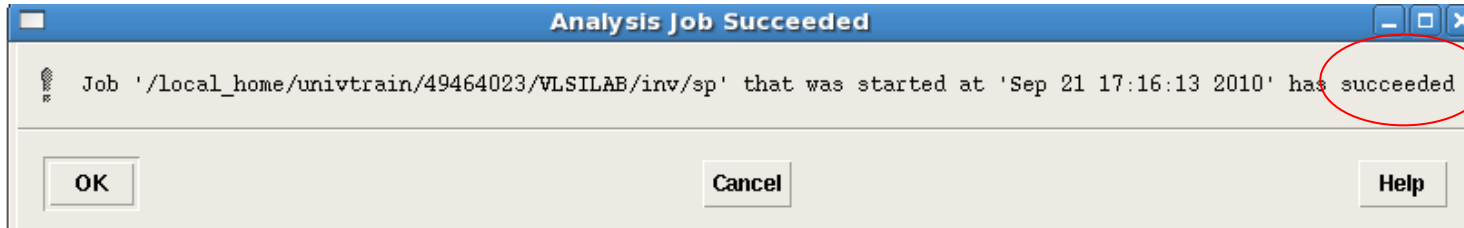
轉SP檔(1/2)

1. File → Export → CDL
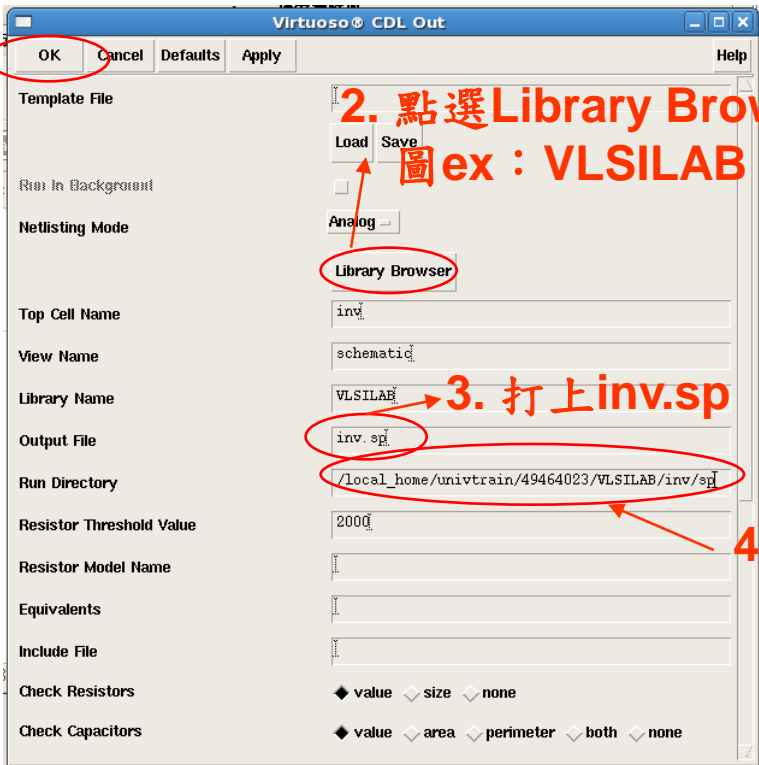
2. 點選Library Browser，選擇要輸出sp檔的電路圖ex：VLSILAB →inv →schematic

3. 打上inv.sp

4. sp檔存放路徑

5.

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轉SP檔(2/2)

Analysis Job Succeeded

Job '/local_home/univtrain/49464023/VLSILAB/inv/sp' that was started at 'Sep 21 17:16:13 2010' has **succeeded**

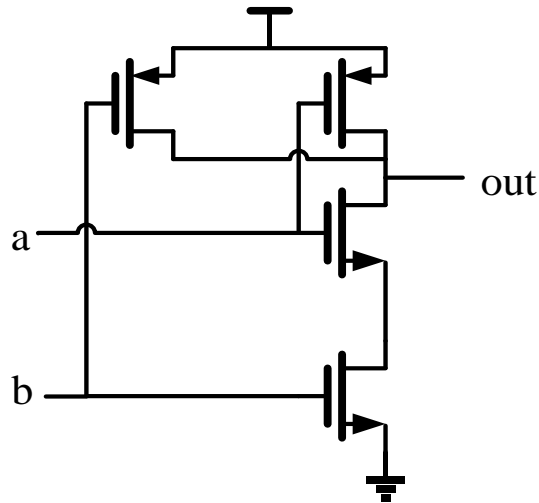OK   Cancel   Help

轉檔成功
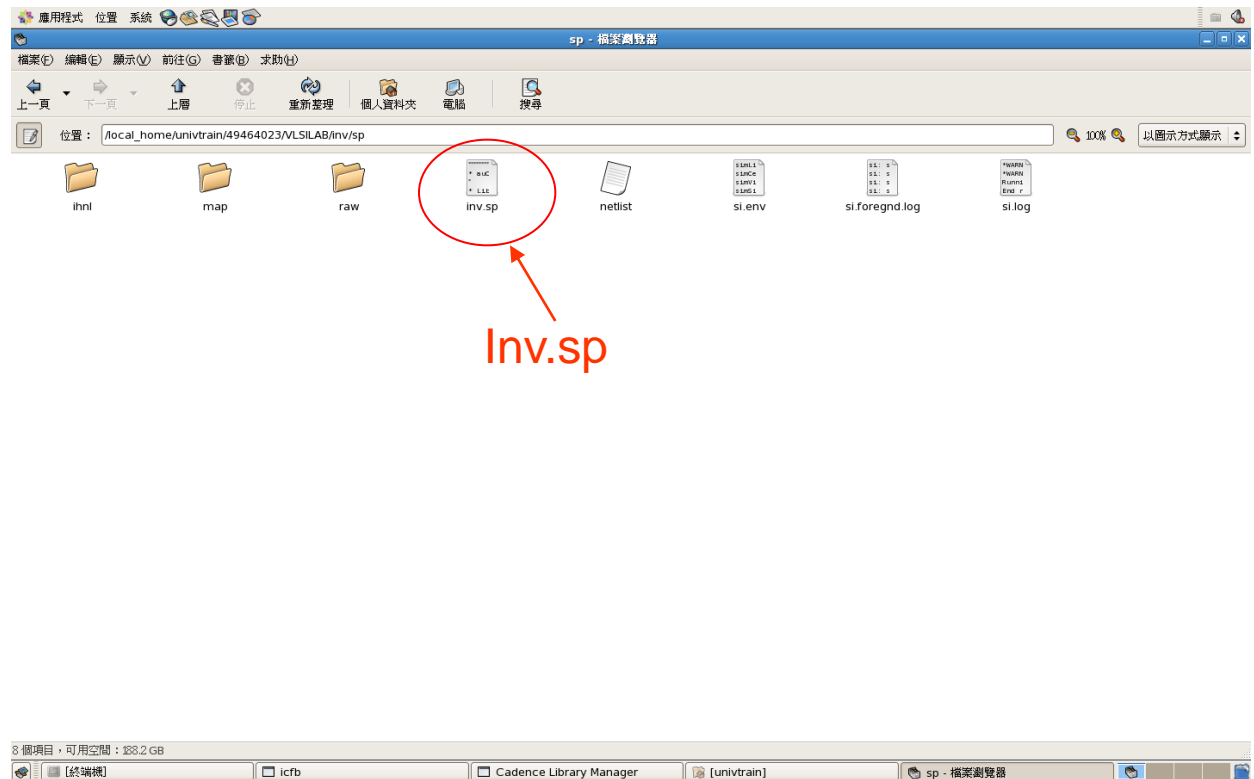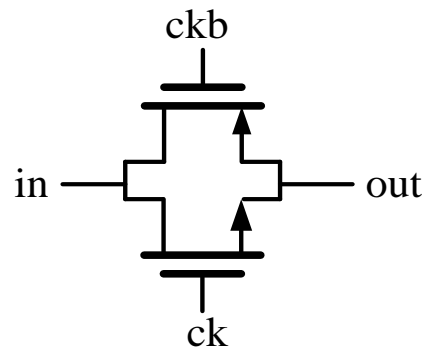
Inv.sp
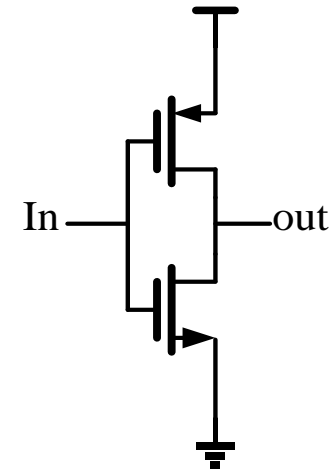
Assignment

- 畫出NAND2、Transmission gate、inverter
- 建立symbol
- 轉出sp檔

NAND2   Transmission gate   inverter

PMOS (W/L)=0.75um/0.18um NMOS (W/L)=0.25um/0.18um

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