

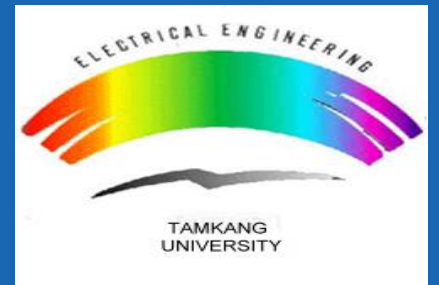
六顆邏輯閘

學生:李俊逸

2024 Advanced Mixed-Operation System (AMOS) Lab.



Tamkang University
Department of Electrical and Computer Engineering
No.151, Yingzhuan Rd., Tamsui Dist., New Taipei City 25137, Taiwan (R.O.C.)



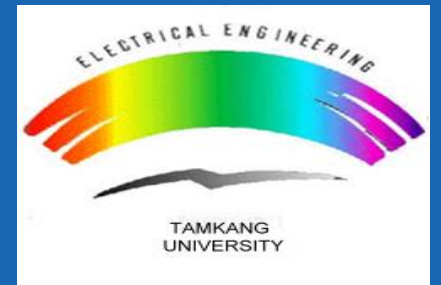
Inverter

學生:李俊逸

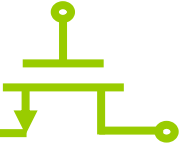
2024 Advanced Mixed-Operation System (AMOS) Lab.



Tamkang University
Department of Electrical and Computer Engineering
No.151, Yingzhuan Rd., Tamsui Dist., New Taipei City 25137, Taiwan (R.O.C.)



Inverter Schematic



VDD

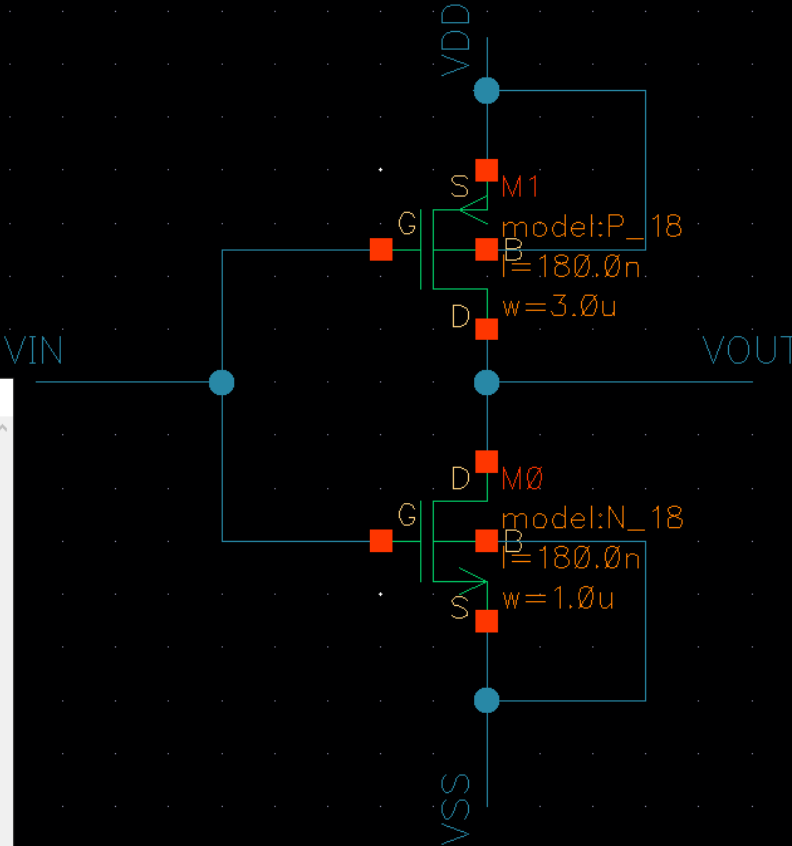
VSS

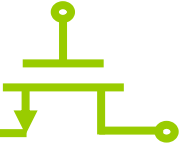
VIN

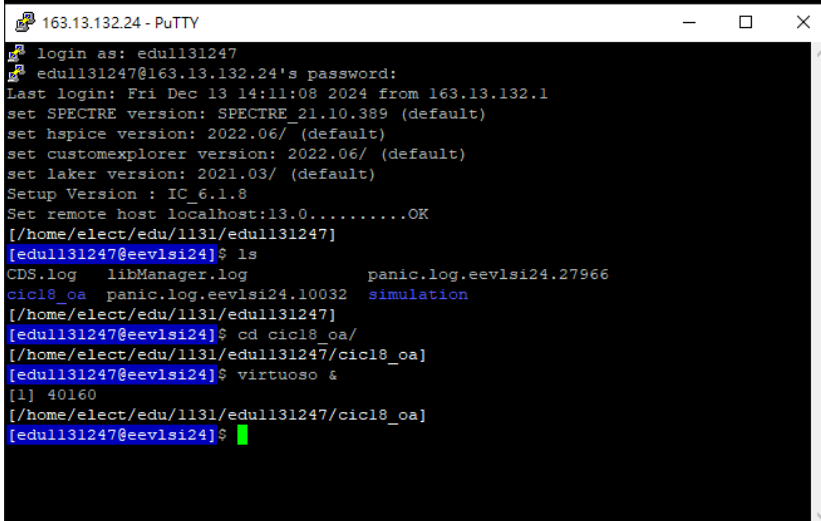
VOUT

```

163.13.132.24 - PuTTY
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edull131247@163.13.132.24's password:
Last login: Fri Dec 13 14:11:08 2024 from 163.13.132.1
set SPECTRE version: SPECTRE_21.10.389 (default)
set hspice version: 2022.06/ (default)
set customexplorer version: 2022.06/ (default)
set laker version: 2021.03/ (default)
Setup Version : IC_6.1.8
Set remote host localhost:13.0.....OK
[/home/elect/edu/1131/edull131247]
[edull131247@eevlsi24]$ ls
CDS.log  libManager.log      panic.log.eevlsi24.27966
cicl8_oa  panic.log.eevlsi24.10032  simulation
[/home/elect/edu/1131/edull131247]
[edull131247@eevlsi24]$ cd cicl8_oa/
[/home/elect/edu/1131/edull131247/cicl8_oa]
[edull131247@eevlsi24]$ virtuoso &
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[/home/elect/edu/1131/edull131247/cicl8_oa]
[edull131247@eevlsi24]$
    
```

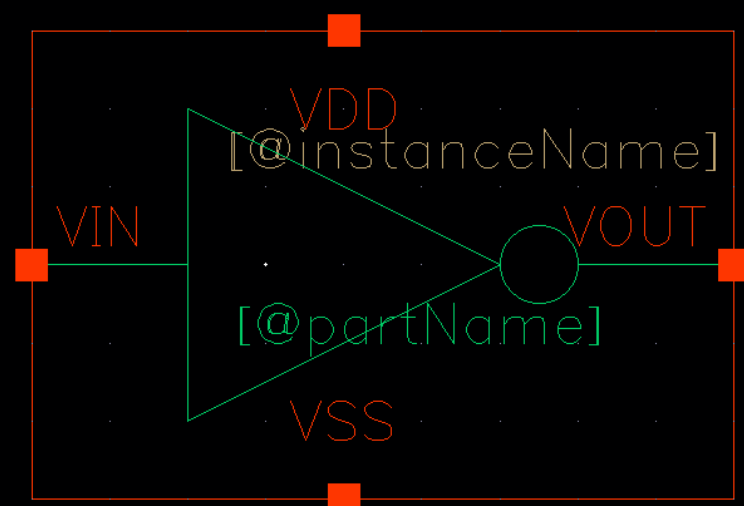




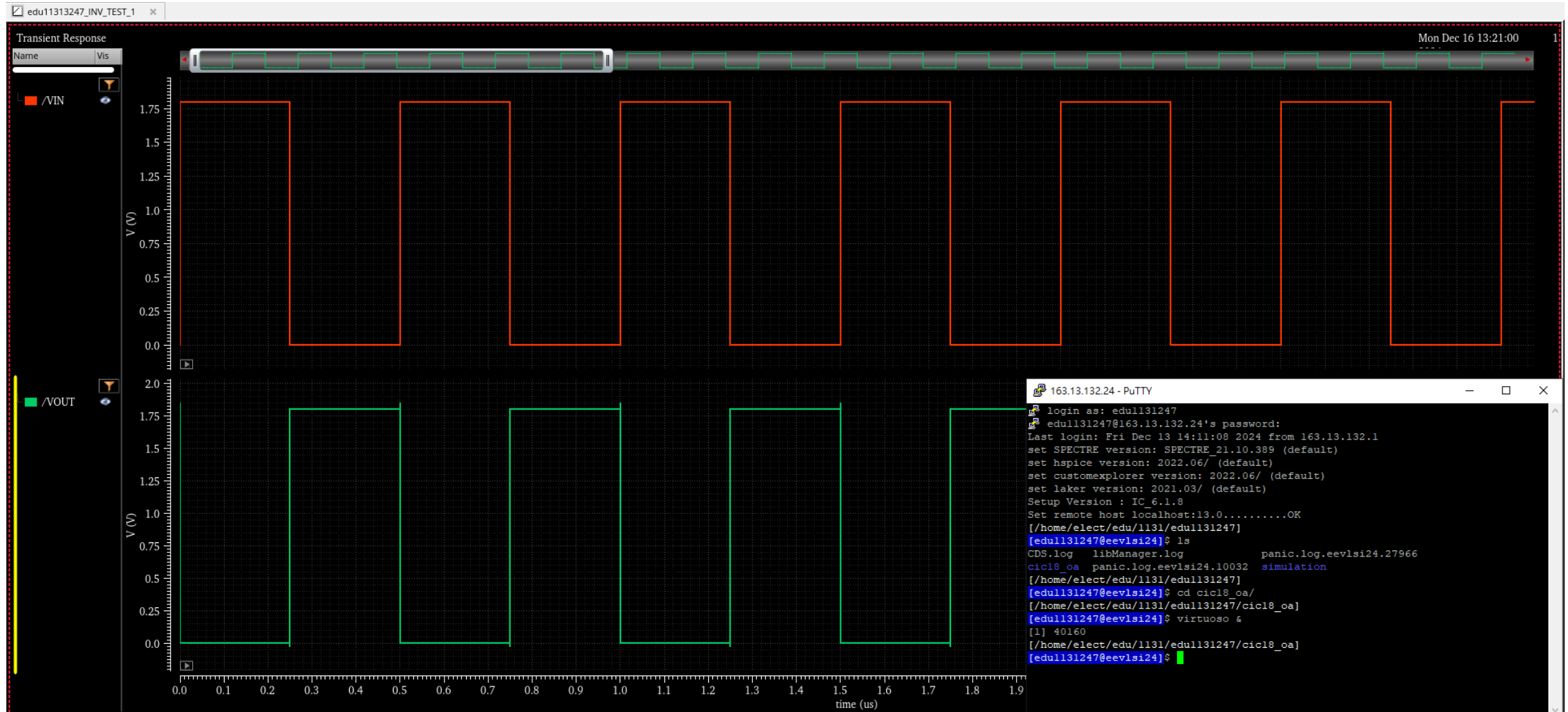
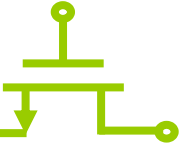


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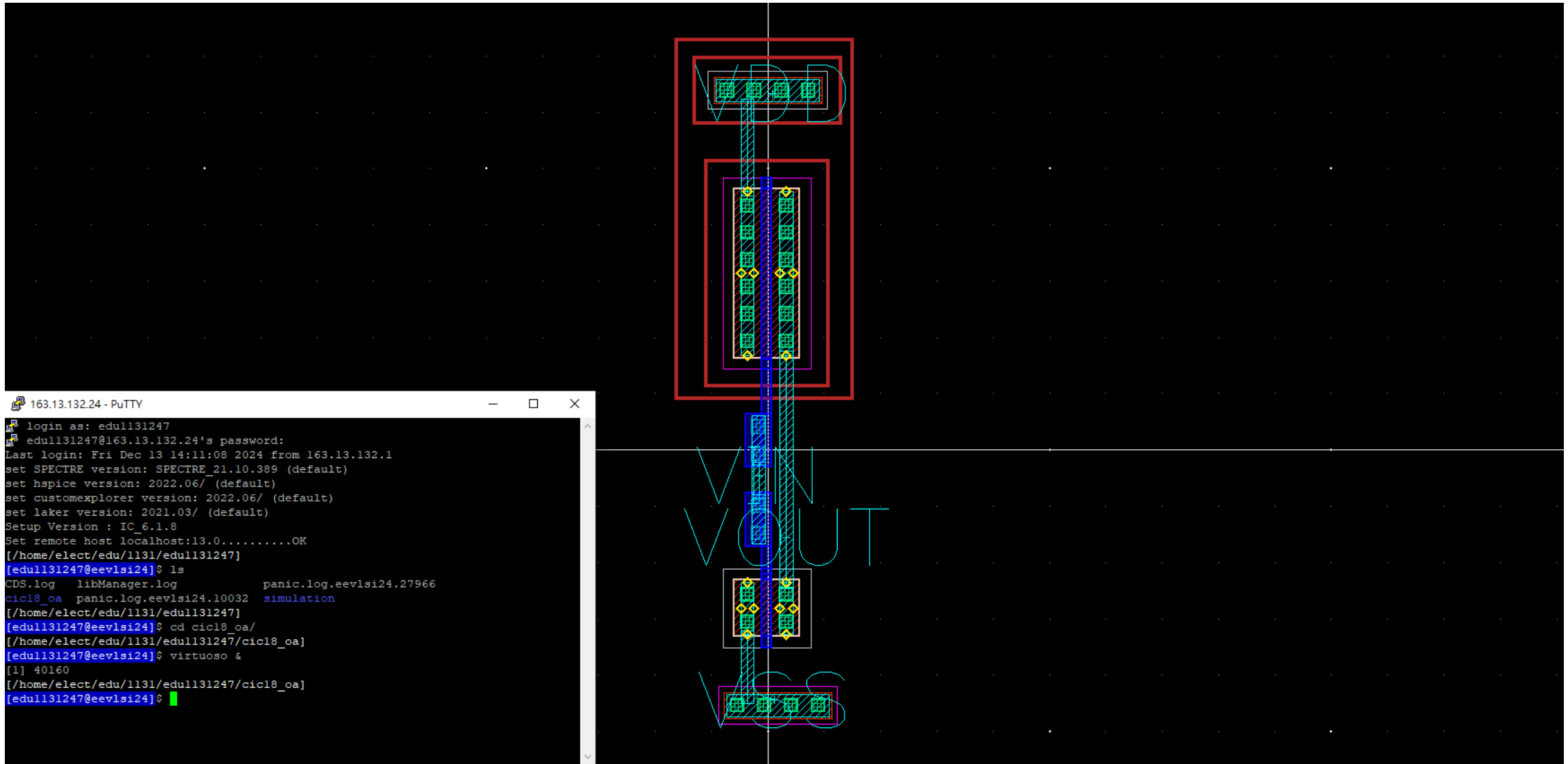
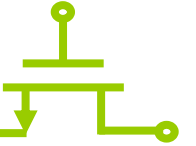
163.13.132.24 - PuTTY
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set laker version: 2021.03/ (default)
Setup Version : IC_6.1.8
Set remote host localhost:13.0.....OK
[/home/elect/edu/1131/edull131247]
[edull131247@eevlsi24]$ ls
CDS.log  libManager.log      panic.log.eevlsi24.27966
cic18_oa  panic.log.eevlsi24.10032  simulation
[/home/elect/edu/1131/edull131247]
[edull131247@eevlsi24]$ cd cic18_oa/
[/home/elect/edu/1131/edull131247/cic18_oa]
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[edull131247@eevlsi24]$
        
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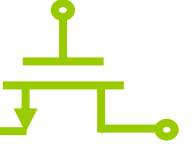


The diagram shows a circuit symbol for a component. It is a triangle with a circle on the right side. The inputs are labeled VIN (left), VDD (top), and VSS (bottom). The output is labeled VOUT (right). The symbol is enclosed in a rectangle with orange corner markers. The text "[@instanceName]" is above the triangle and "[@partName]" is below it.



Inverter Layout





Calibre - RVE v2021.1_33.19 : INV_TEST.drc.results

File View Highlight Tools Window Setup Help

Search

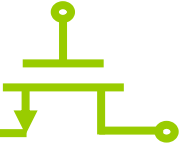
Filter: Show All No Results Found

Check / Cell Results

163.13.132.24 - PuTTY

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set hspice version: 2022.06/ (default)
set customexplorer version: 2022.06/ (default)
set laker version: 2021.03/ (default)
Setup Version : IC_6.1.8
Set remote host localhost:13.0.....OK
[/home/elect/edu/1131/edull131247]
[edull131247@eevlsi24]$ ls
CDS.log  libManager.log          panic.log.eevlsi24.27966
cicl8_oa  panic.log.eevlsi24.10032  simulation
[/home/elect/edu/1131/edull131247]
[edull131247@eevlsi24]$ cd cicl8_oa/
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[edull131247@eevlsi24]$ virtuoso &
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[edull131247@eevlsi24]$
```





2024/12/16

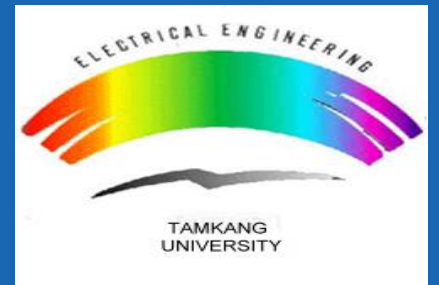
NAND

學生:李俊逸

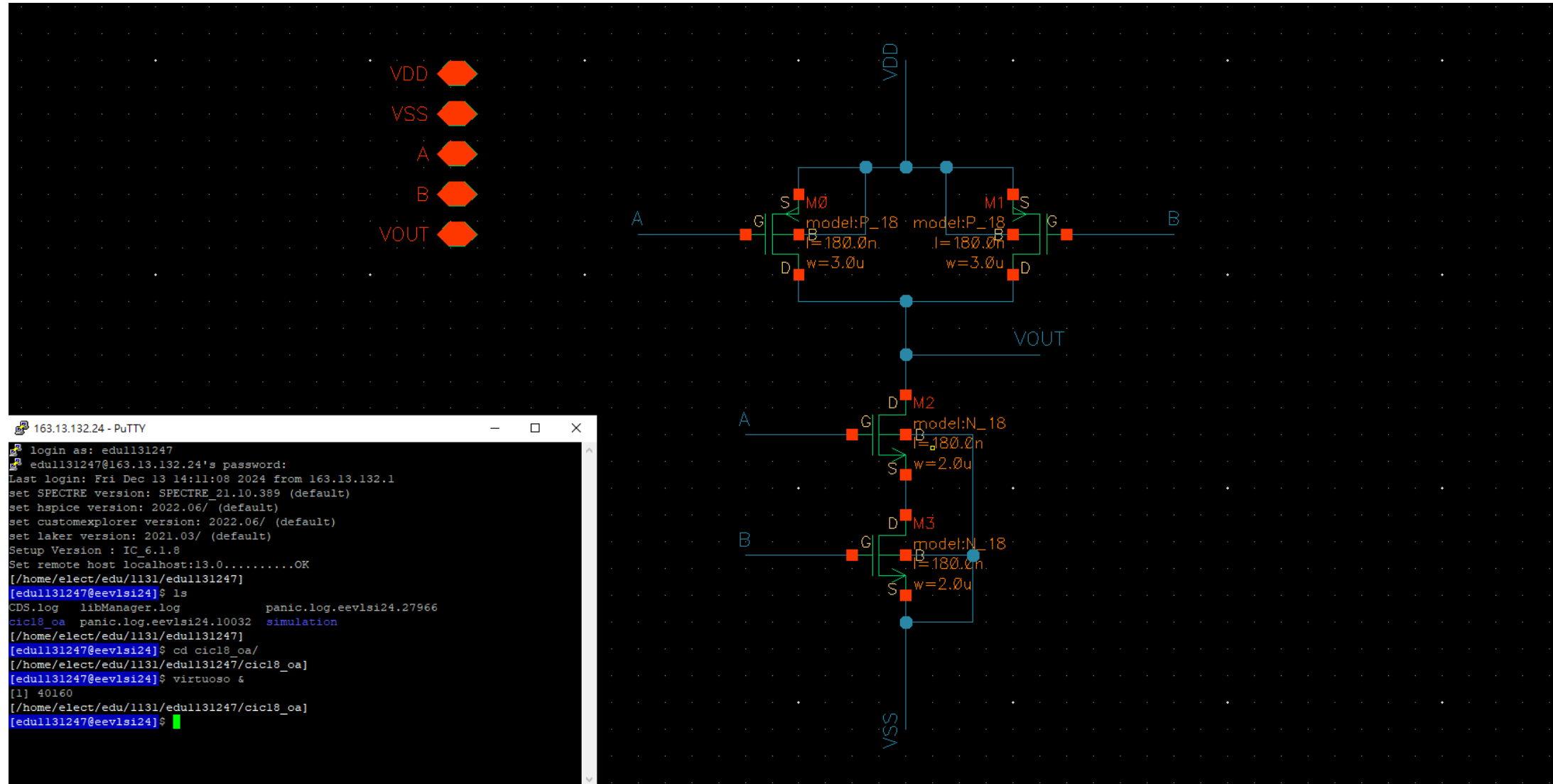
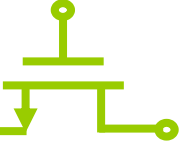
2024 Advanced Mixed-Operation System (AMOS) Lab.

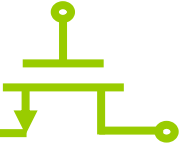


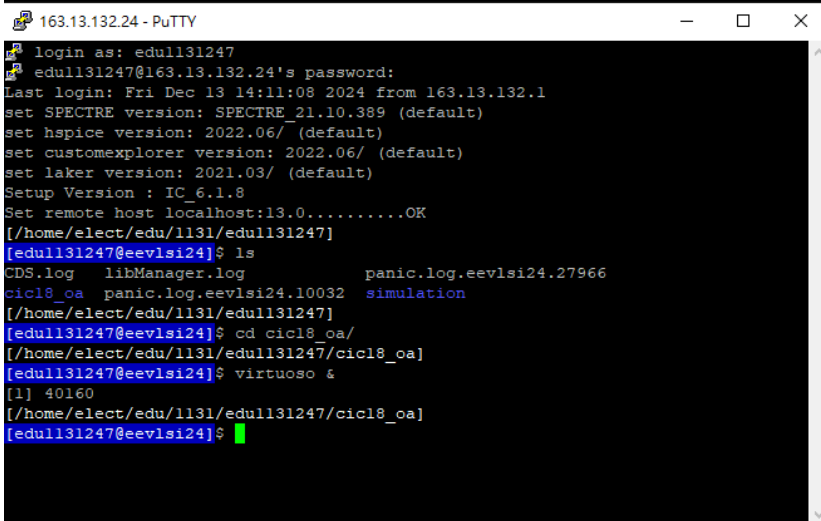
Tamkang University
Department of Electrical and Computer Engineering
No.151, Yingzhuan Rd., Tamsui Dist., New Taipei City 25137, Taiwan (R.O.C.)



NAND Schematic

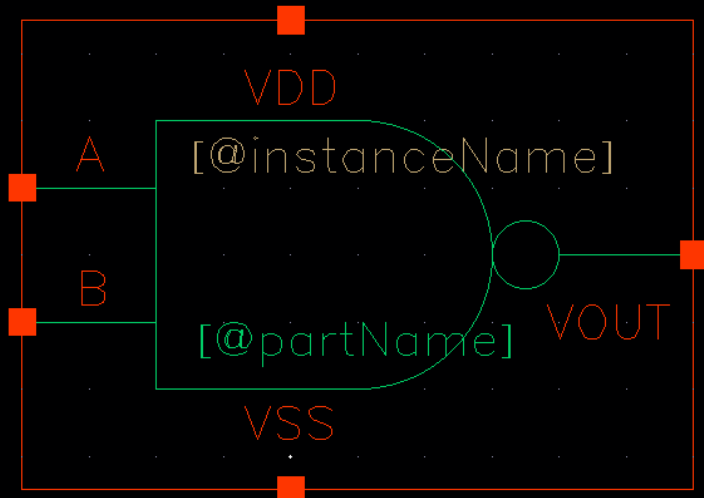




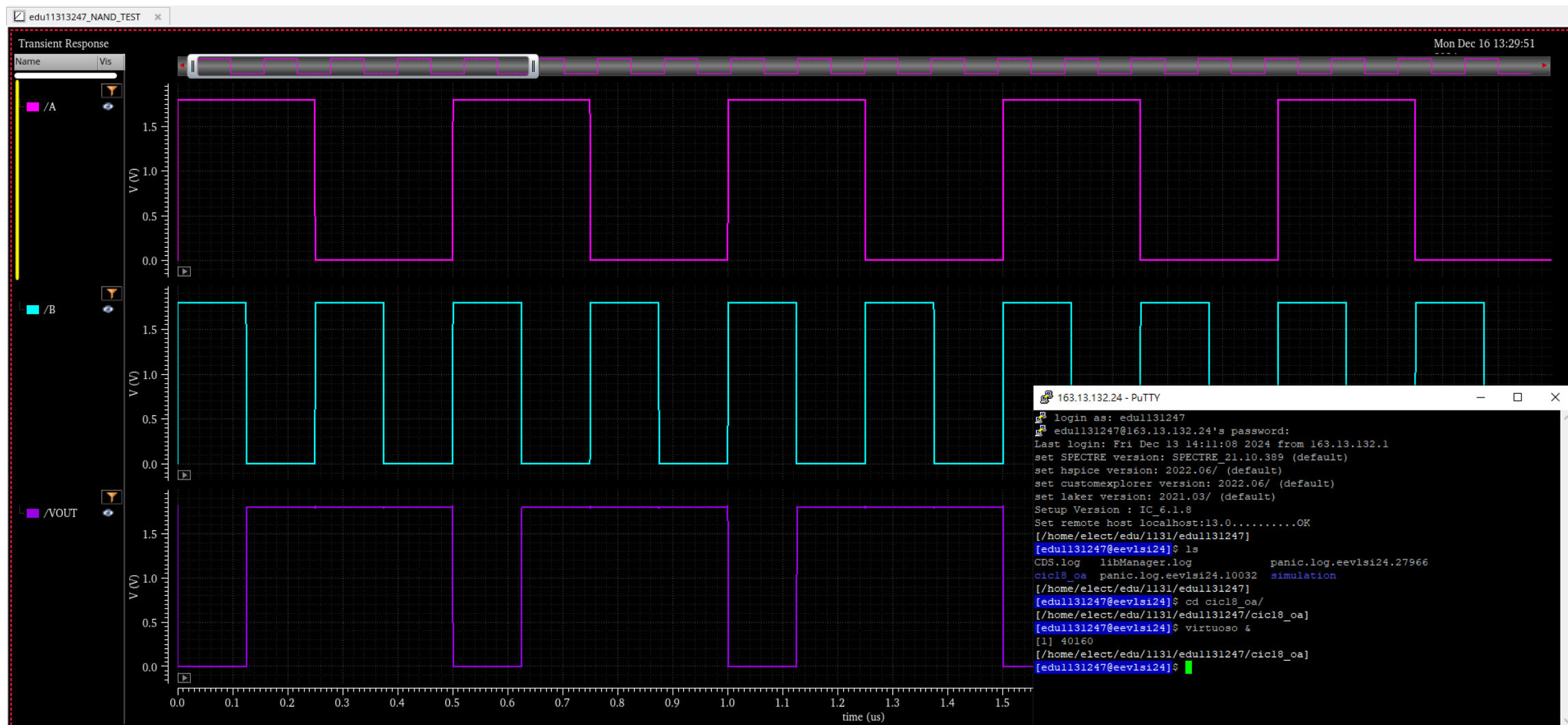
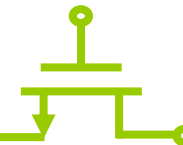


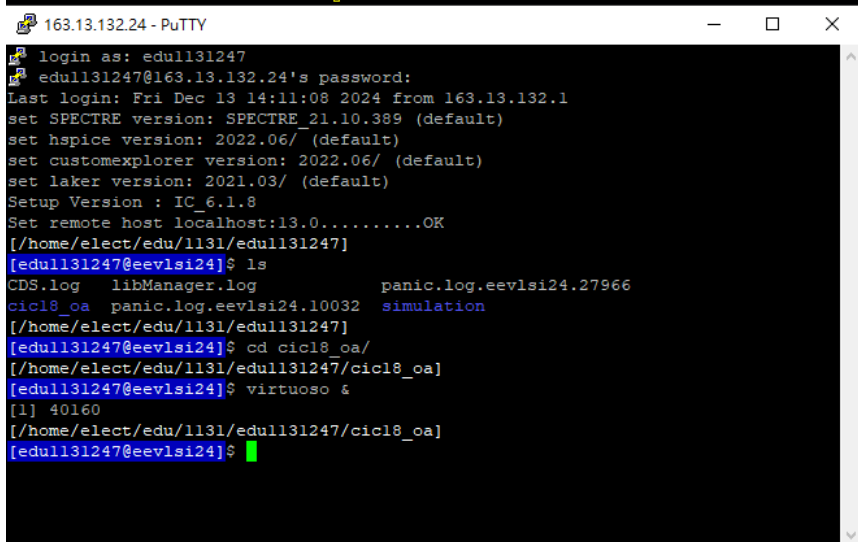
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cicl8_oa  panic.log.eevlsi24.10032 simulation
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[edull31247@eevlsi24]$ virtuoso &
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```



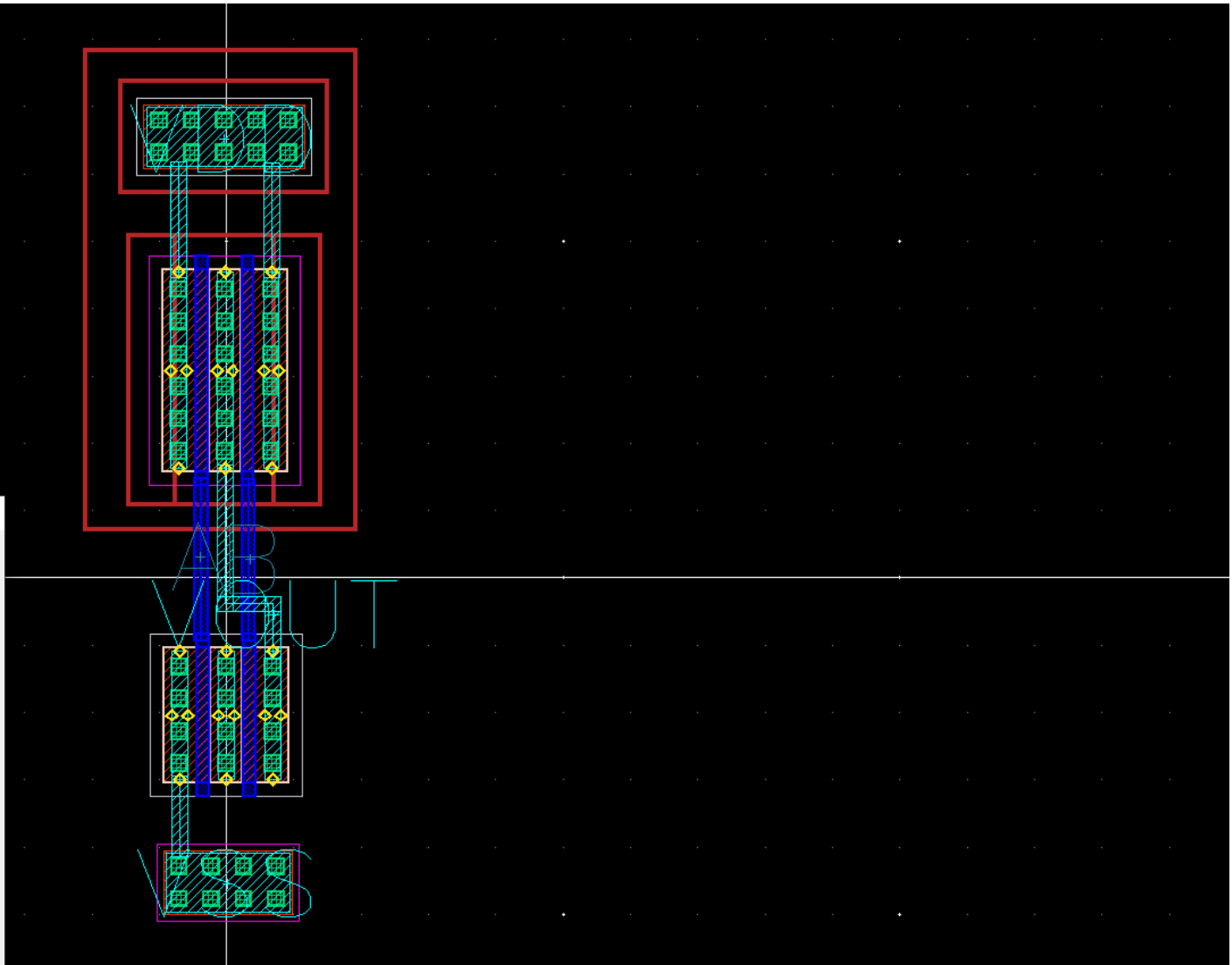




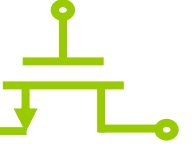
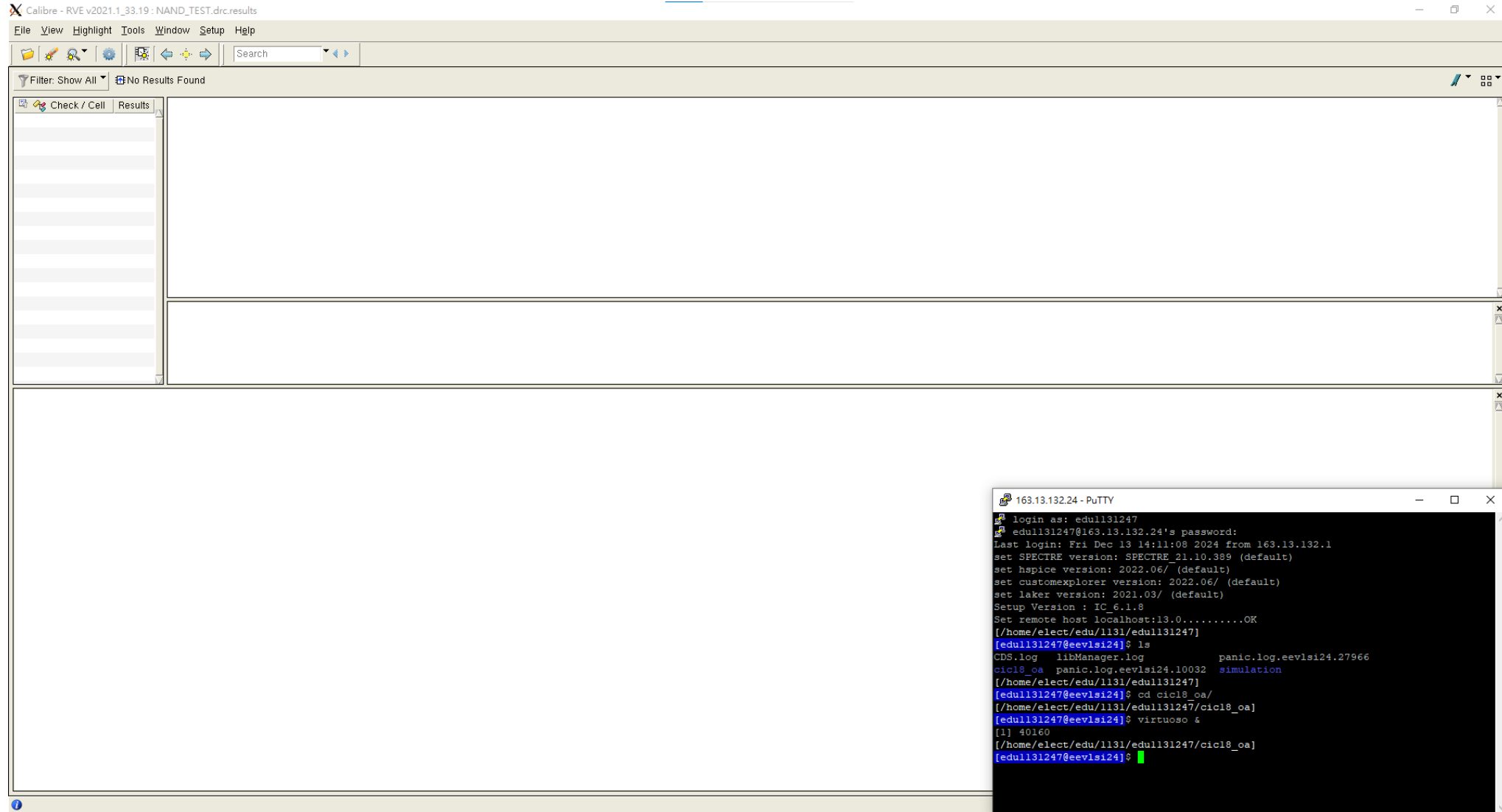


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163.13.132.24 - PuTTY
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set SPECTRE version: SPECTRE 21.10.389 (default)
set hspice version: 2022.06/ (default)
set customexplorer version: 2022.06/ (default)
set laker version: 2021.03/ (default)
Setup Version : IC_6.1.8
Set remote host localhost:13.0.....OK
[/home/elect/edu/1131/edull131247]
[edull131247@eevlsi24]$ ls
CDS.log  libManager.log      panic.log.eevlsi24.27966
cicl8_oa  panic.log.eevlsi24.10032  simulation
[/home/elect/edu/1131/edull131247]
[edull131247@eevlsi24]$ cd cicl8_oa/
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[edull131247@eevlsi24]$ virtuoso &
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[/home/elect/edu/1131/edull131247/cicl8_oa]
[edull131247@eevlsi24]$
        
```



The diagram illustrates a NAND layout on a grid. It features several rectangular blocks, each containing a grid of small squares representing cells. These blocks are interconnected by a network of vertical and horizontal lines, forming a complex circuit structure. The layout is organized into a central vertical column with additional blocks branching off to the left and right.

Calibre - RVE v2021.1_33.19 : NAND_TEST.drc.results

File View Highlight Tools Window Setup Help

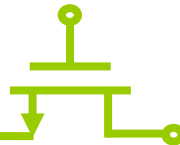
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Check / Cell Results

163.13.132.24 - PuTTY

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[edull131247@eevlsi24]$ ls
CDS.log libManager.log panic.log.eevlsi24.27966
cic18_oa panic.log.eevlsi24.10032 simulation
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[edull131247@eevlsi24]$ cd cic18_oa/
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[edull131247@eevlsi24]$
```





```
163.13.132.24 - PuTTY
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edull131247@163.13.132.24's password:
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set laker version: 2021.03/ (default)
Setup Version : IC 6.1.8
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[edull131247@eevlsi24]$ ls
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[edull131247@eevlsi24]$ cd cic18_oa/
[/home/elect/edu/ll131/edull131247/cic18_oa]
[edull131247@eevlsi24]$ virtuoso &
[1] 40160
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[edull131247@eevlsi24]$
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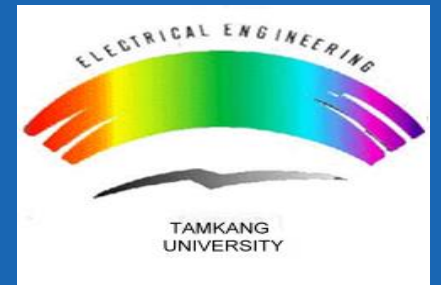
NOR

學生:李俊逸

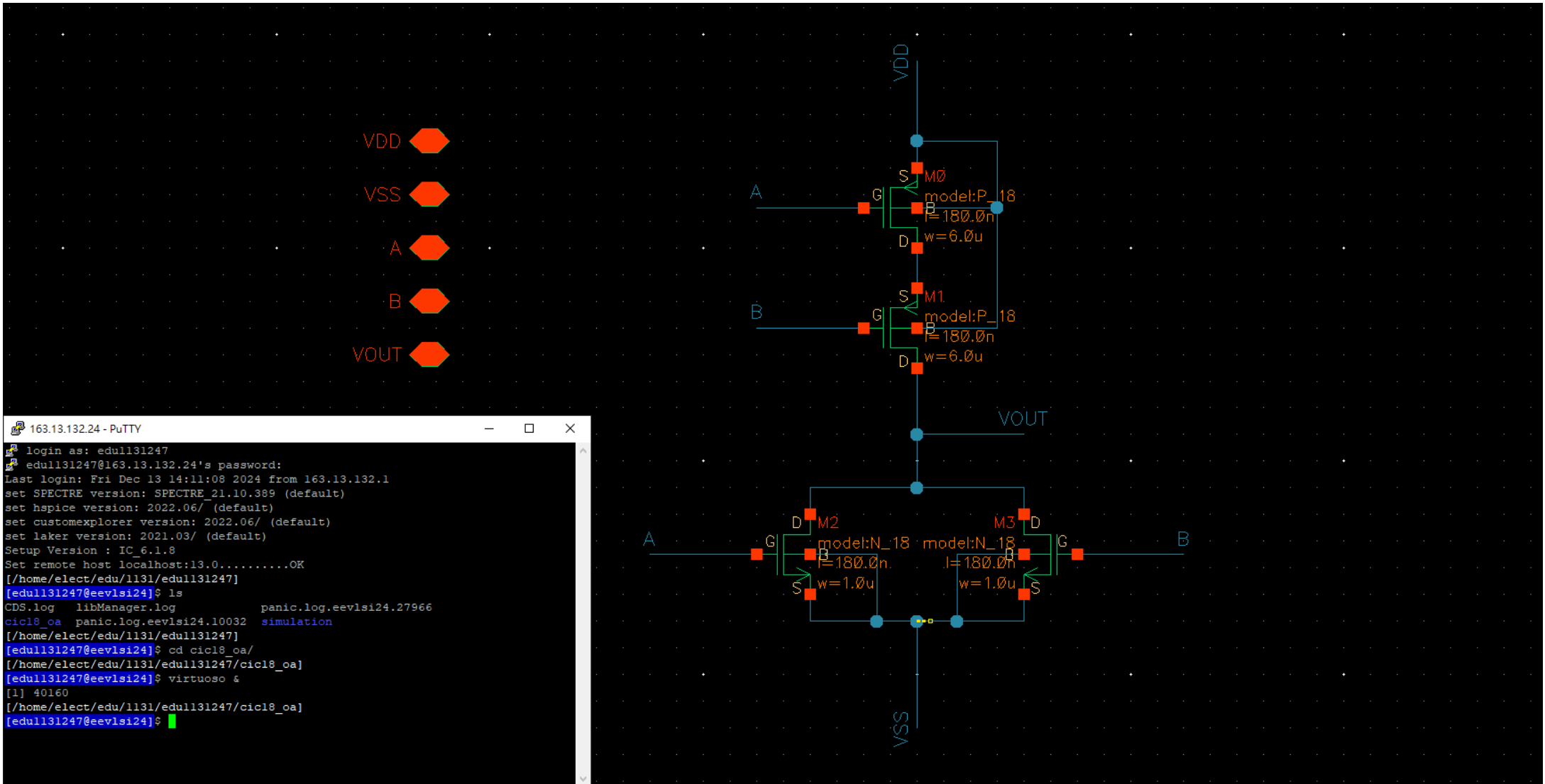
2024 Advanced Mixed-Operation System (AMOS) Lab.

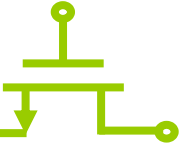


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NOR Schematic

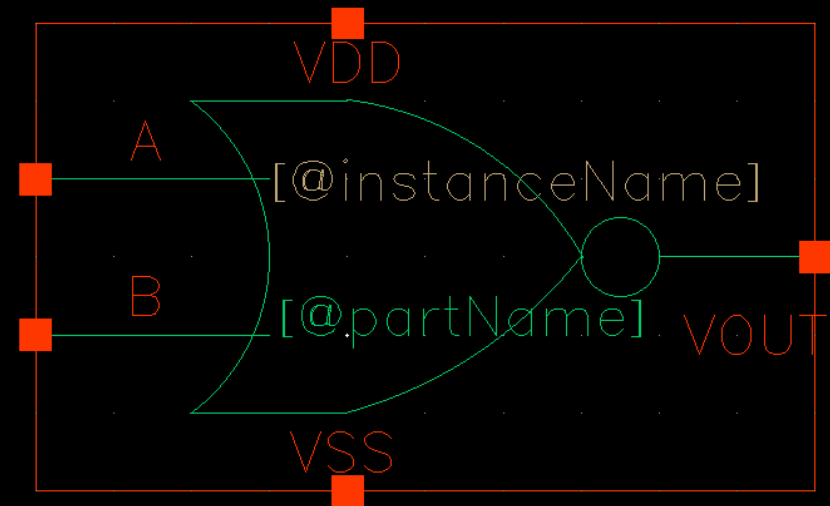




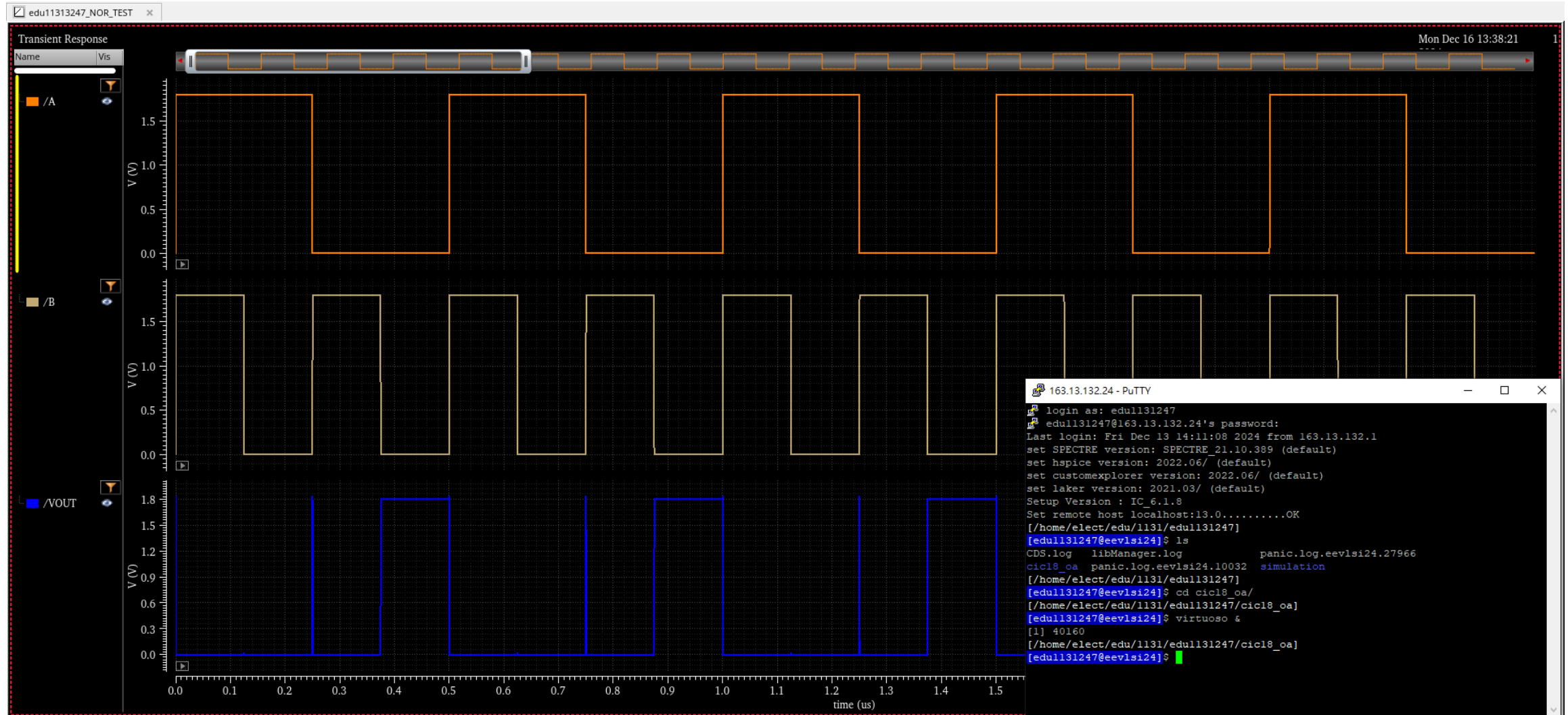
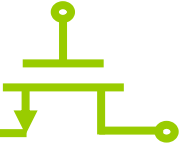
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163.13.132.24 - PuTTY
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set hspice version: 2022.06/ (default)
set customexplorer version: 2022.06/ (default)
set laker version: 2021.03/ (default)
Setup Version : IC_6.1.8
Set remote host localhost:13.0.....OK
[/home/elect/edu/1131/edull131247]
[edull131247@eevlsi24]$ ls
CDS.log  libManager.log      panic.log.eevlsi24.27966
cicl8_oa  panic.log.eevlsi24.10032  simulation
[/home/elect/edu/1131/edull131247]
[edull131247@eevlsi24]$ cd cicl8_oa/
[/home/elect/edu/1131/edull131247/cicl8_oa]
[edull131247@eevlsi24]$ virtuoso &
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[edull131247@eevlsi24]$

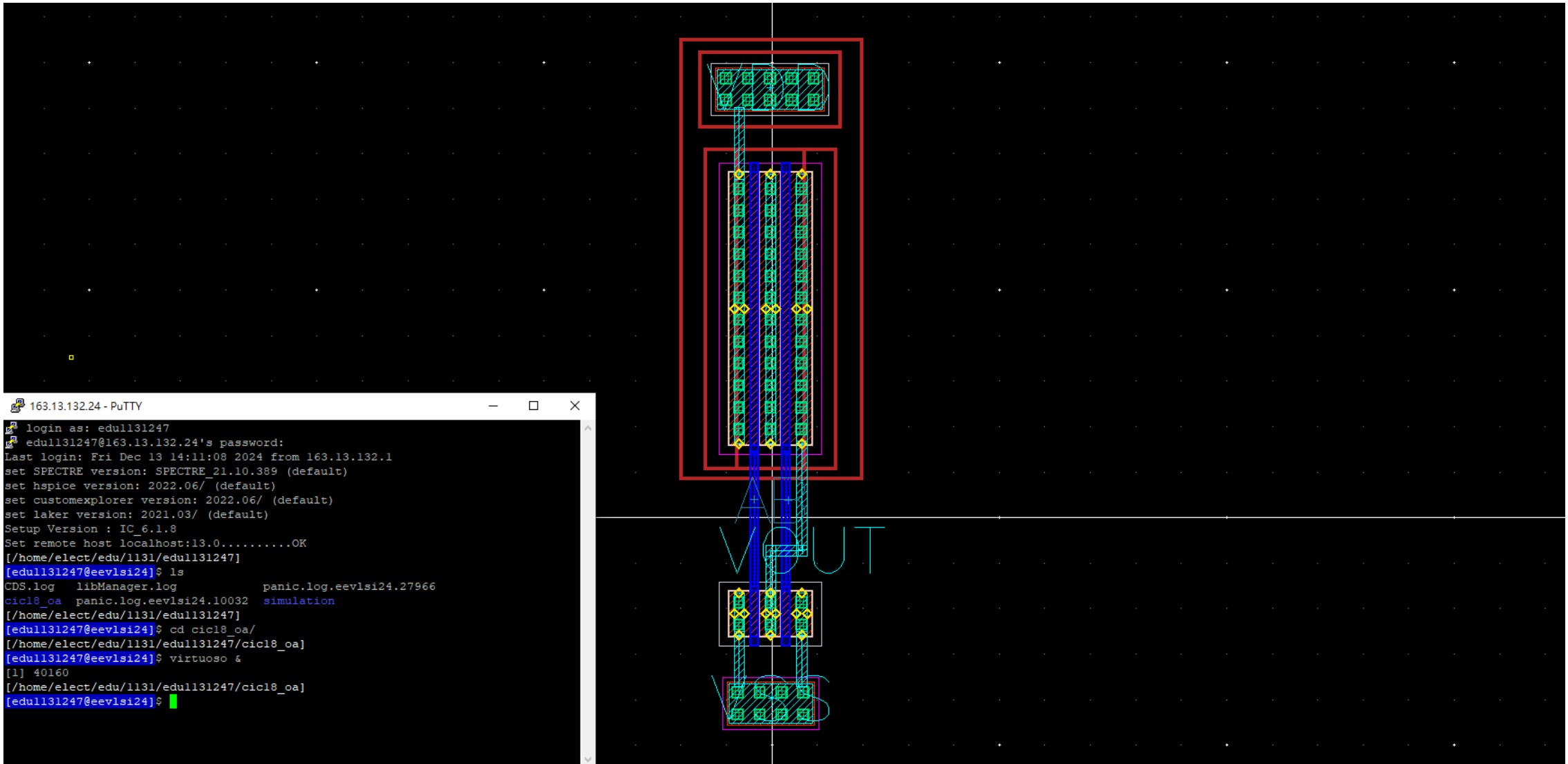
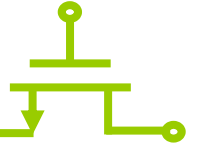
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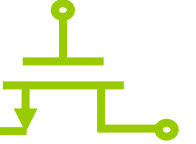


NOR Layout



```

163.13.132.24 - PuTTY
login as: edull131247
edull131247@163.13.132.24's password:
Last login: Fri Dec 13 14:11:08 2024 from 163.13.132.1
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Setup Version : IC_6.1.8
Set remote host localhost:13.0.....OK
[/home/elect/edu/1131/edull131247]
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CDS.log  libManager.log  panic.log.eevlsi24.27966
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[edull131247@eevlsi24]$ virtuoso &
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[/home/elect/edu/1131/edull131247/cicl8_oa]
[edull131247@eevlsi24]$
    
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Calibre - RVE v2021.1_33.19 : NOR_TEST.drc.results

File View Highlight Tools Window Setup Help

Search

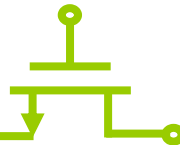
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Check / Cell Results

163.13.132.24 - PuTTY

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Set remote host localhost:13.0.....OK
[/home/elect/edu/1131/edull131247]
[edull131247@eevlsi24]$ ls
CDS.log libManager.log panic.log.eevlsi24.27966
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[edull131247@eevlsi24]$
```





```

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edull131247@163.13.132.24's password:
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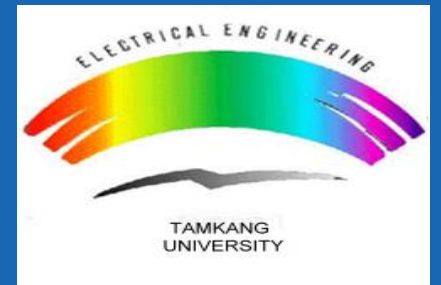
AND

學生:李俊逸

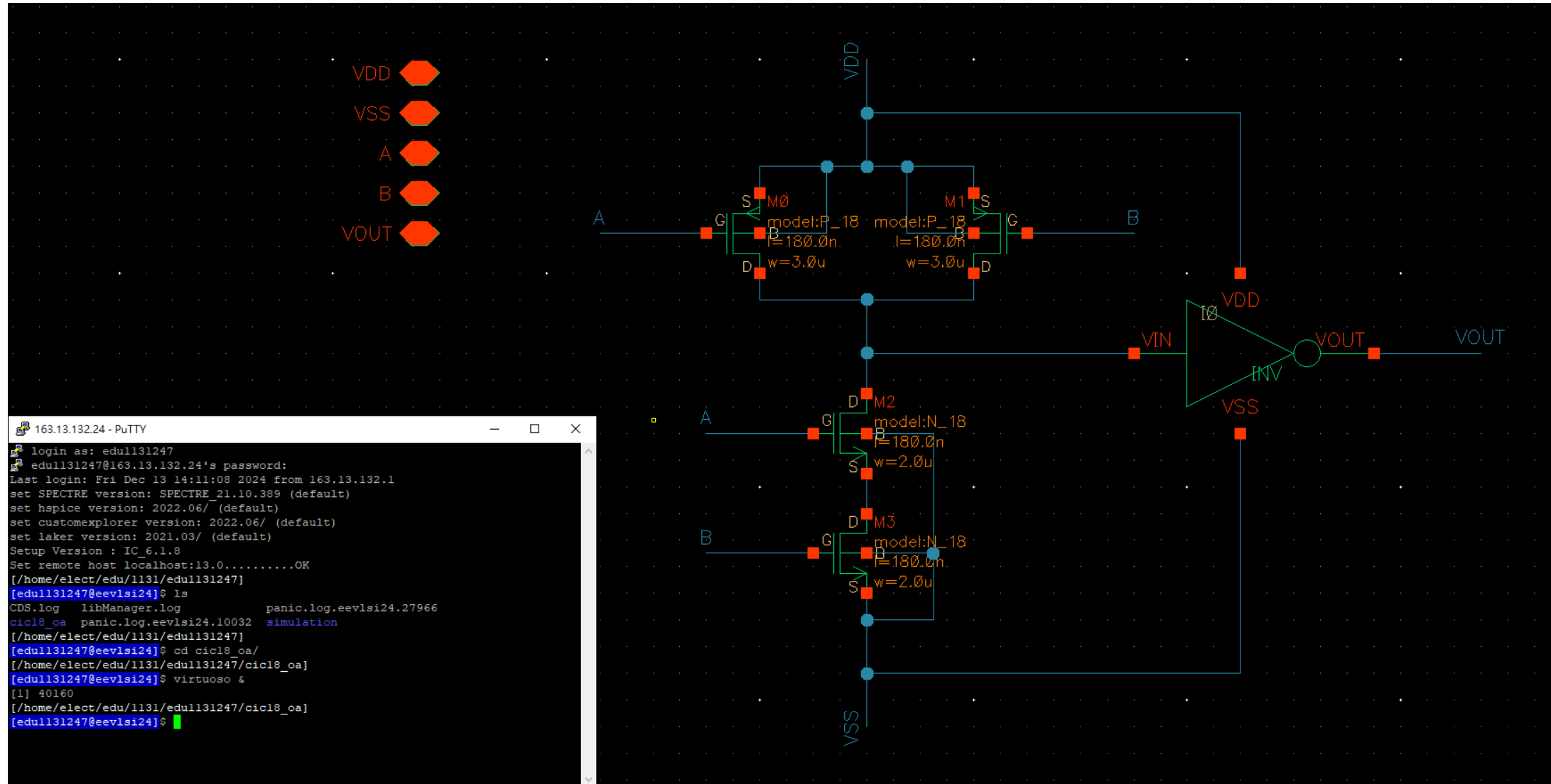
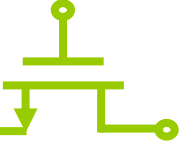
2024 Advanced Mixed-Operation System (AMOS) Lab.

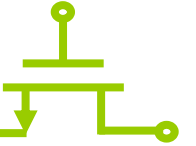


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AND Schematic

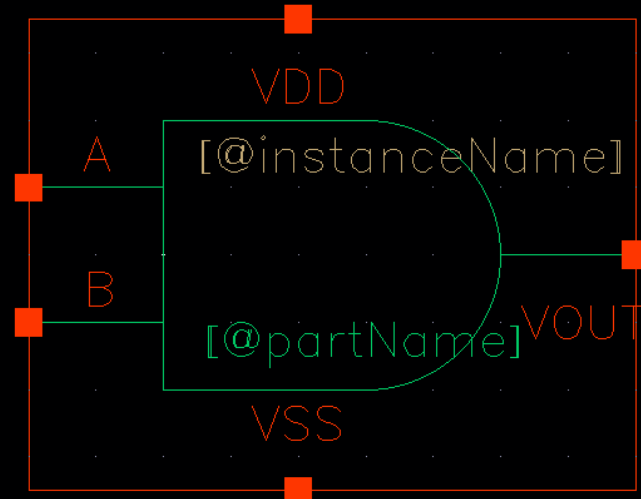




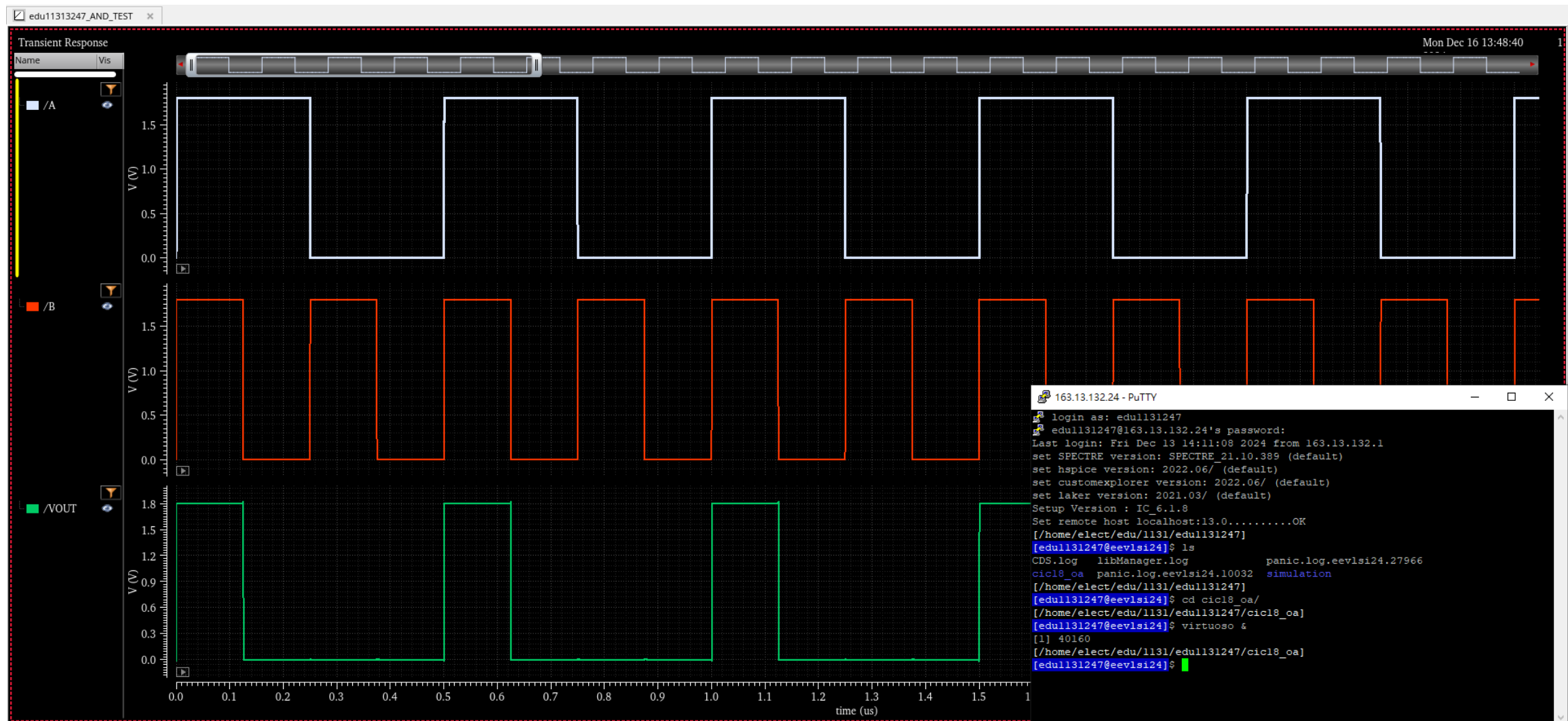
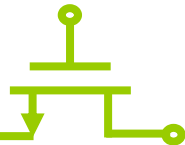
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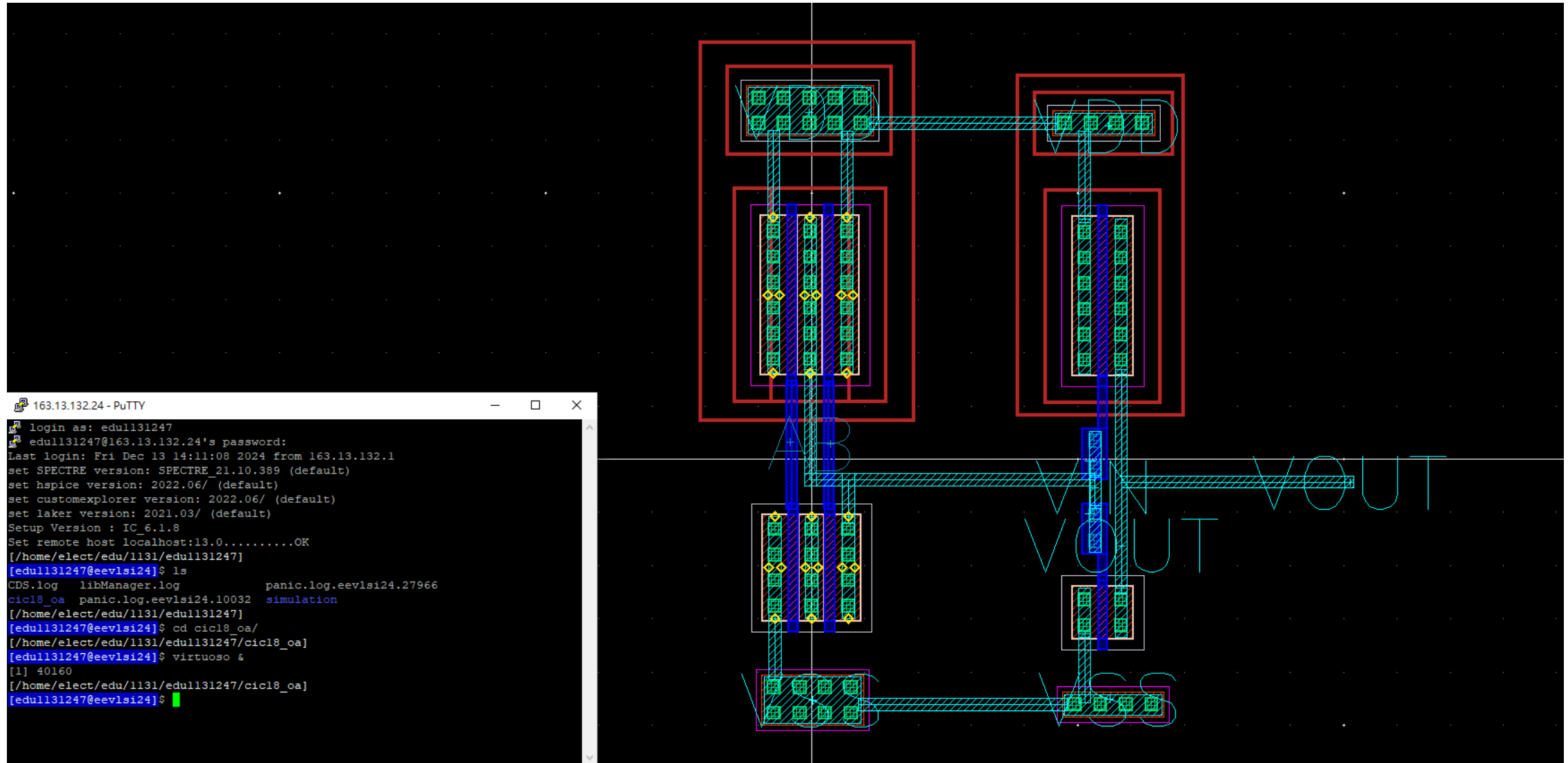
163.13.132.24 - PuTTY
login as: edull131247
edull131247@163.13.132.24's password:
Last login: Fri Dec 13 14:11:08 2024 from 163.13.132.1
set SPECTRE version: SPECTRE_21.10.389 (default)
set hspice version: 2022.06/ (default)
set customexplorer version: 2022.06/ (default)
set laker version: 2021.03/ (default)
Setup Version : IC_6.1.8
Set remote host localhost:13.0.....OK
[/home/elect/edu/1131/edull131247]
[edull131247@eevlsi24]$ ls
CDS.log  libManager.log      panic.log.eevlsi24.27966
cicl8_oa  panic.log.eevlsi24.10032 simulation
[/home/elect/edu/1131/edull131247]
[edull131247@eevlsi24]$ cd cicl8_oa/
[/home/elect/edu/1131/edull131247/cicl8_oa]
[edull131247@eevlsi24]$ virtuoso &
[1] 40160
[/home/elect/edu/1131/edull131247/cicl8_oa]
[edull131247@eevlsi24]$

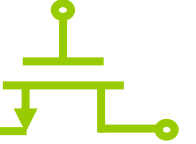
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Calibre - RVE v2021.1_33.19 : AND_TEST.drc.results

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Search

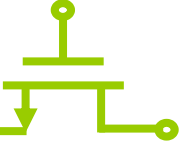
Filter: Show All No Results Found

Check / Cell Results

163.13.132.24 - PuTTY

```
login as: edull131247
edull131247@163.13.132.24's password:
Last login: Fri Dec 13 14:11:08 2024 from 163.13.132.1
set SPECTRE version: SPECTRE_21.10.389 (default)
set hspice version: 2022.06/ (default)
set customexplorer version: 2022.06/ (default)
set laker version: 2021.03/ (default)
Setup Version : IC_6.1.8
Set remote host localhost:13.0.....OK
[/home/elect/edu/1131/edull131247]
[edull131247@eevlsi24]$ ls
CDS.log libManager.log panic.log.eevlsi24.27966
cicl8_oa panic.log.eevlsi24.10032 simulation
[/home/elect/edu/1131/edull131247]
[edull131247@eevlsi24]$ cd cicl8_oa/
[/home/elect/edu/1131/edull131247/cicl8_oa]
[edull131247@eevlsi24]$ virtuoso &
[1] 40160
[/home/elect/edu/1131/edull131247/cicl8_oa]
[edull131247@eevlsi24]$
```



[illegible]

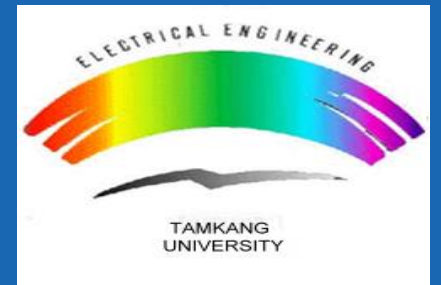
OR

學生:李俊逸

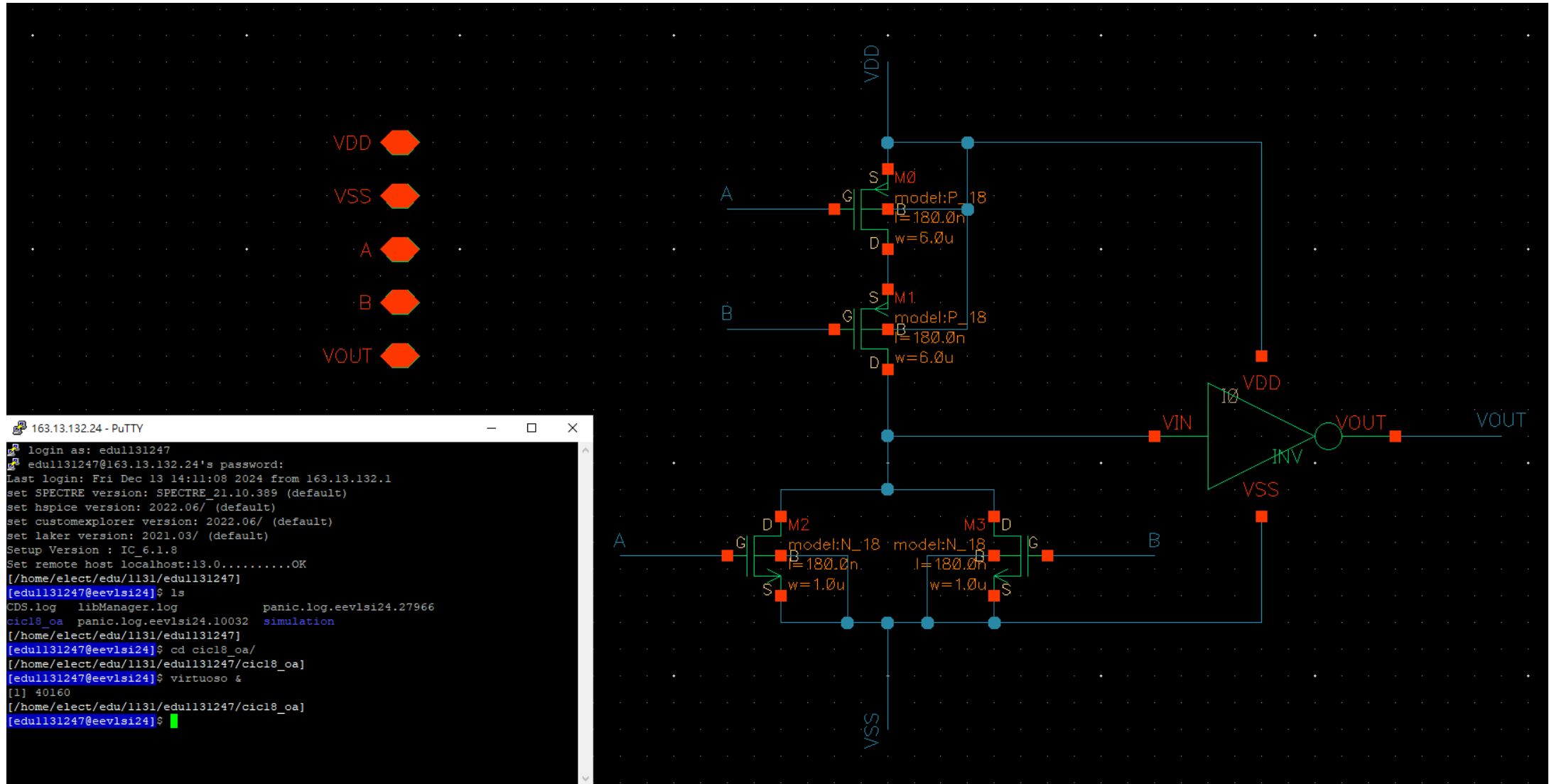
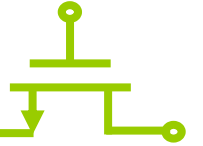
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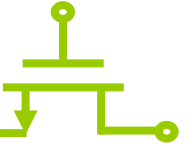


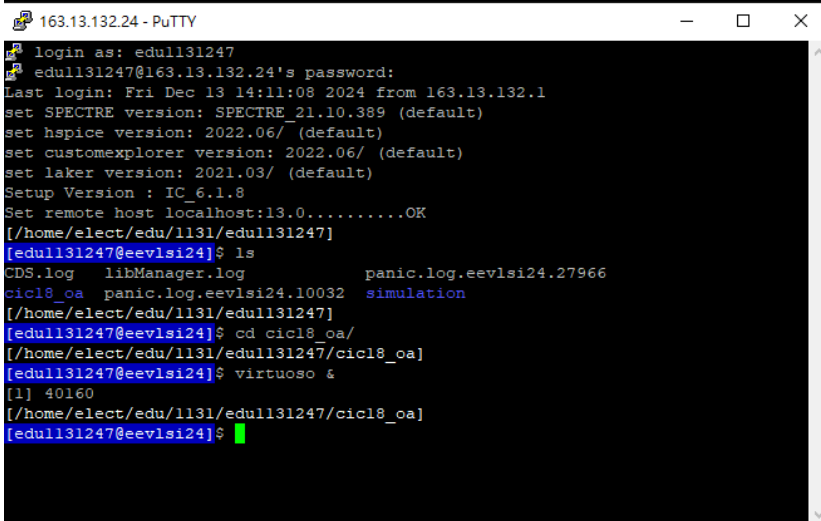
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Department of Electrical and Computer Engineering
No.151, Yingzhuan Rd., Tamsui Dist., New Taipei City 25137, Taiwan (R.O.C.)



OR Schematic

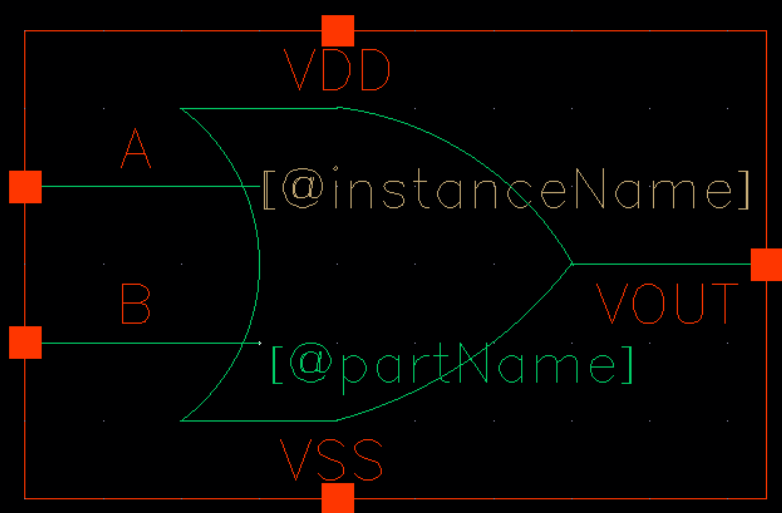




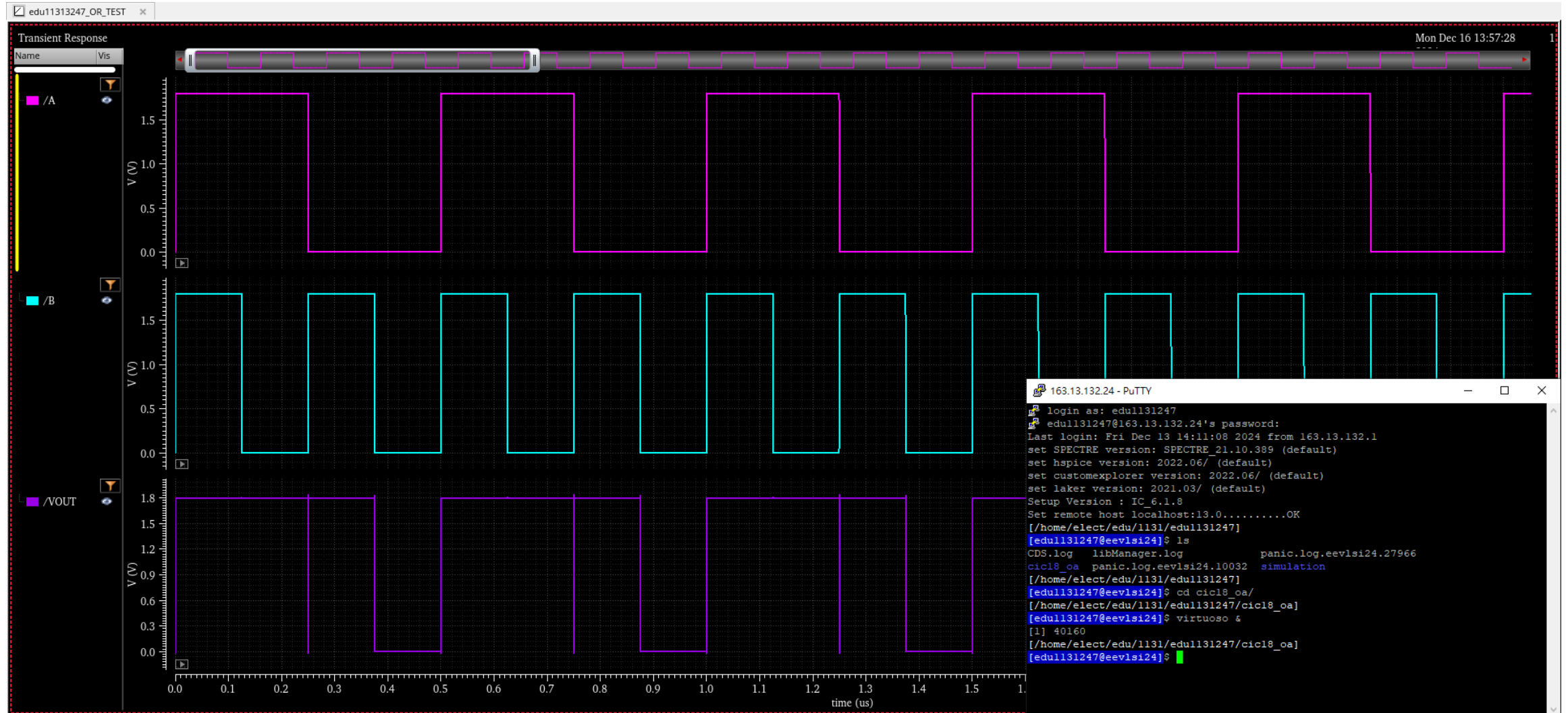
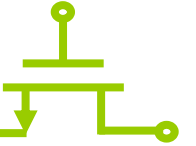


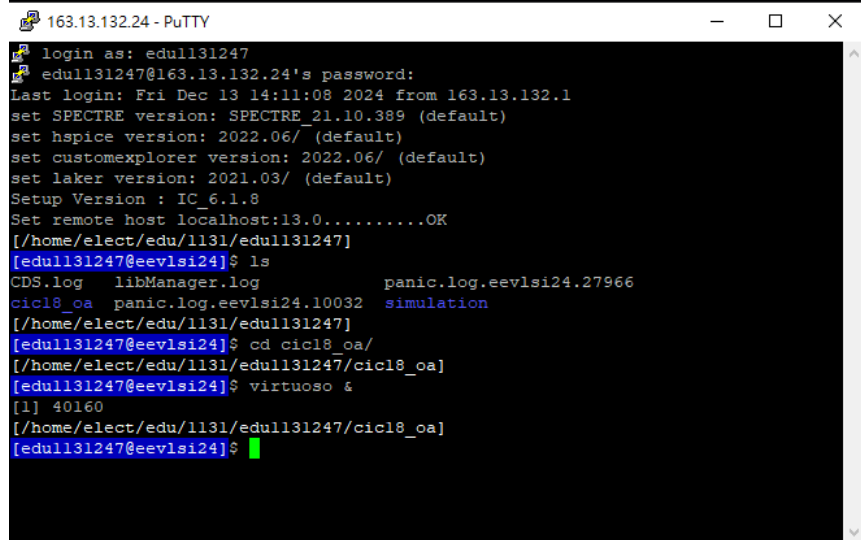
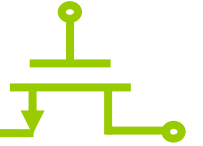
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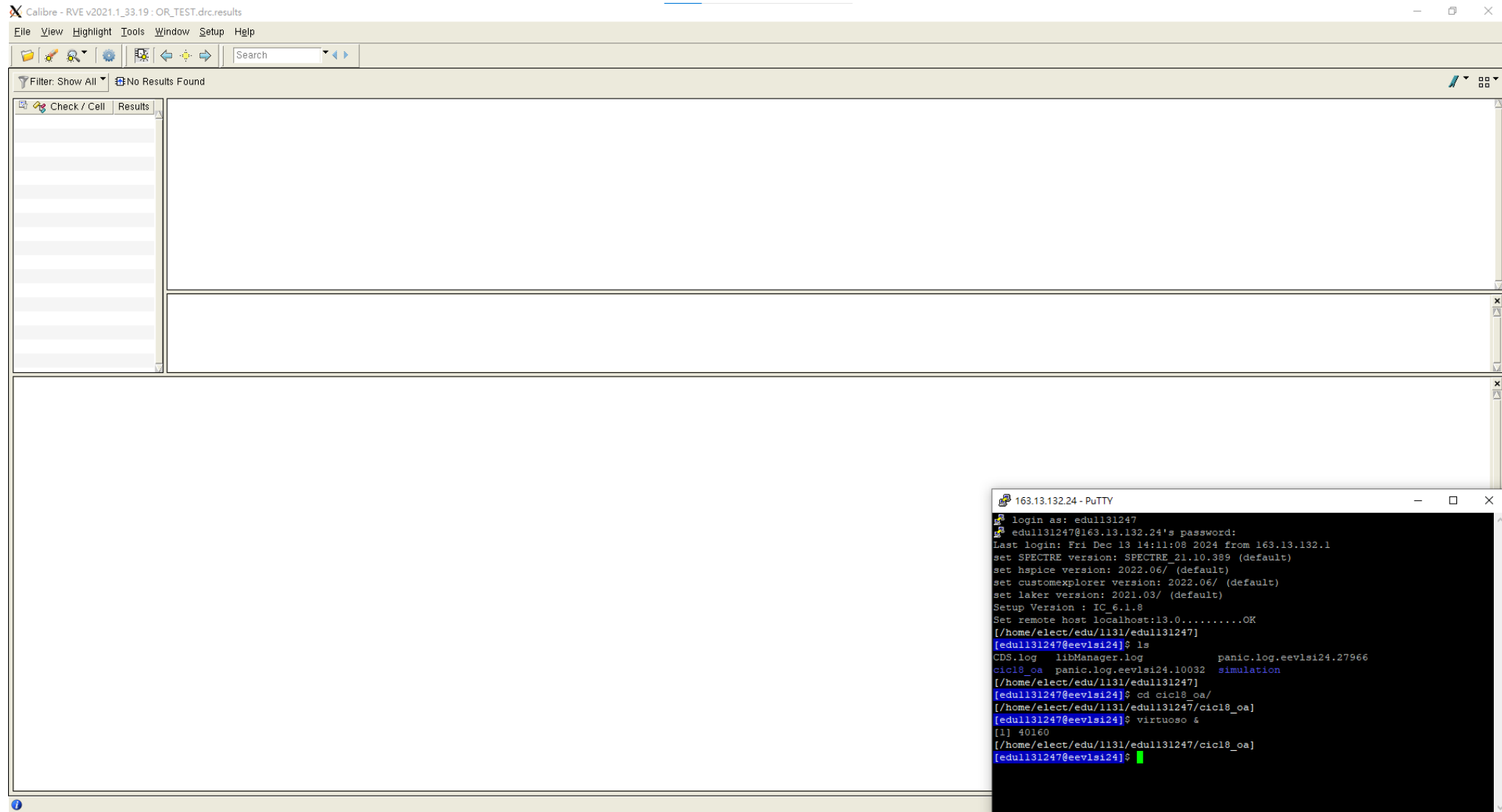
163.13.132.24 - PuTTY
login as: edull131247
edull131247@163.13.132.24's password:
Last login: Fri Dec 13 14:11:08 2024 from 163.13.132.1
set SPECTRE version: SPECTRE_21.10.389 (default)
set hspice version: 2022.06/ (default)
set customexplorer version: 2022.06/ (default)
set laker version: 2021.03/ (default)
Setup Version : IC_6.1.8
Set remote host localhost:13.0.....OK
[/home/elect/edu/1131/edull131247]
[edull131247@eevlsi24]$ ls
CDS.log  libManager.log      panic.log.eevlsi24.27966
cicl8_oa  panic.log.eevlsi24.10032 simulation
[/home/elect/edu/1131/edull131247]
[edull131247@eevlsi24]$ cd cicl8_oa/
[/home/elect/edu/1131/edull131247/cicl8_oa]
[edull131247@eevlsi24]$ virtuoso &
[1] 40160
[/home/elect/edu/1131/edull131247/cicl8_oa]
[edull131247@eevlsi24]$
        
```



The diagram shows a green AND gate symbol on a black grid. The gate has two inputs on the left labeled 'A' and 'B', and one output on the right labeled 'VOUT'. The top input is connected to a red square labeled 'VDD', and the bottom input is connected to a red square labeled 'VSS'. The gate is enclosed in a red rectangular box. Inside the box, the text '@instanceName' is positioned above the gate and '@partName' is positioned below it.





Calibre - RVE v2021.1_33.19 : OR_TEST.drc.results

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163.13.132.24 - PuTTY

```
login as: edull131247
edull131247@163.13.132.24's password:
Last login: Fri Dec 13 14:11:08 2024 from 163.13.132.1
set SPECTRE version: SPECTRE_21.10.389 (default)
set hspice version: 2022.06/ (default)
set customexplorer version: 2022.06/ (default)
set laker version: 2021.03/ (default)
Setup Version : IC_6.1.8
Set remote host localhost:13.0.....OK
[/home/elect/edu/1131/edull131247]
[edull131247@eevlsi24]$ ls
CDS.log libManager.log panic.log.eevlsi24.27966
cic18_oa panic.log.eevlsi24.10032 simulation
[/home/elect/edu/1131/edull131247]
[edull131247@eevlsi24]$ cd cic18_oa/
[/home/elect/edu/1131/edull131247/cic18_oa]
[edull131247@eevlsi24]$ virtuosos &
[1] 40160
[/home/elect/edu/1131/edull131247/cic18_oa]
[edull131247@eevlsi24]$
```



[illegible]

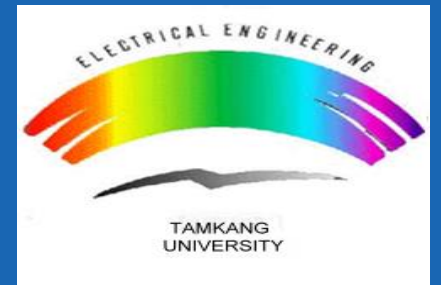
XOR

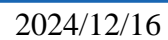
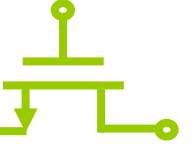
學生:李俊逸

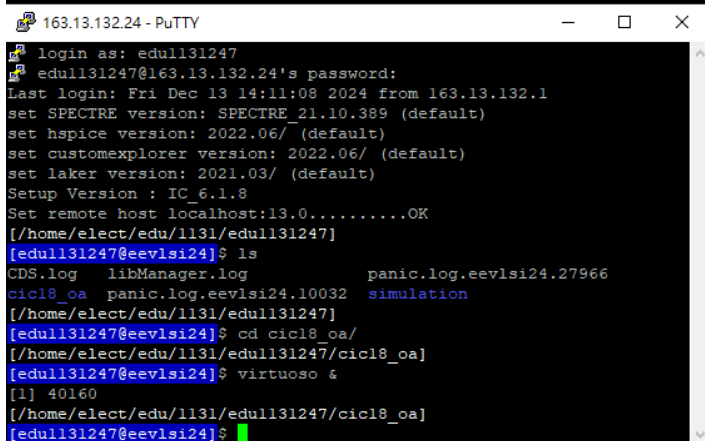
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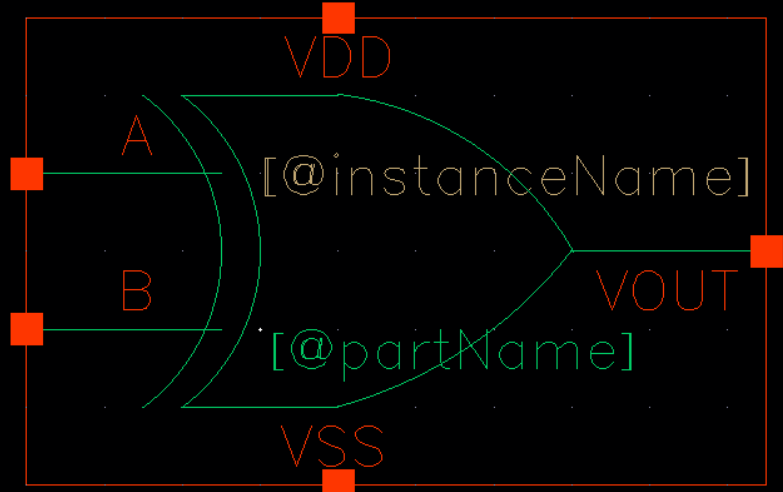




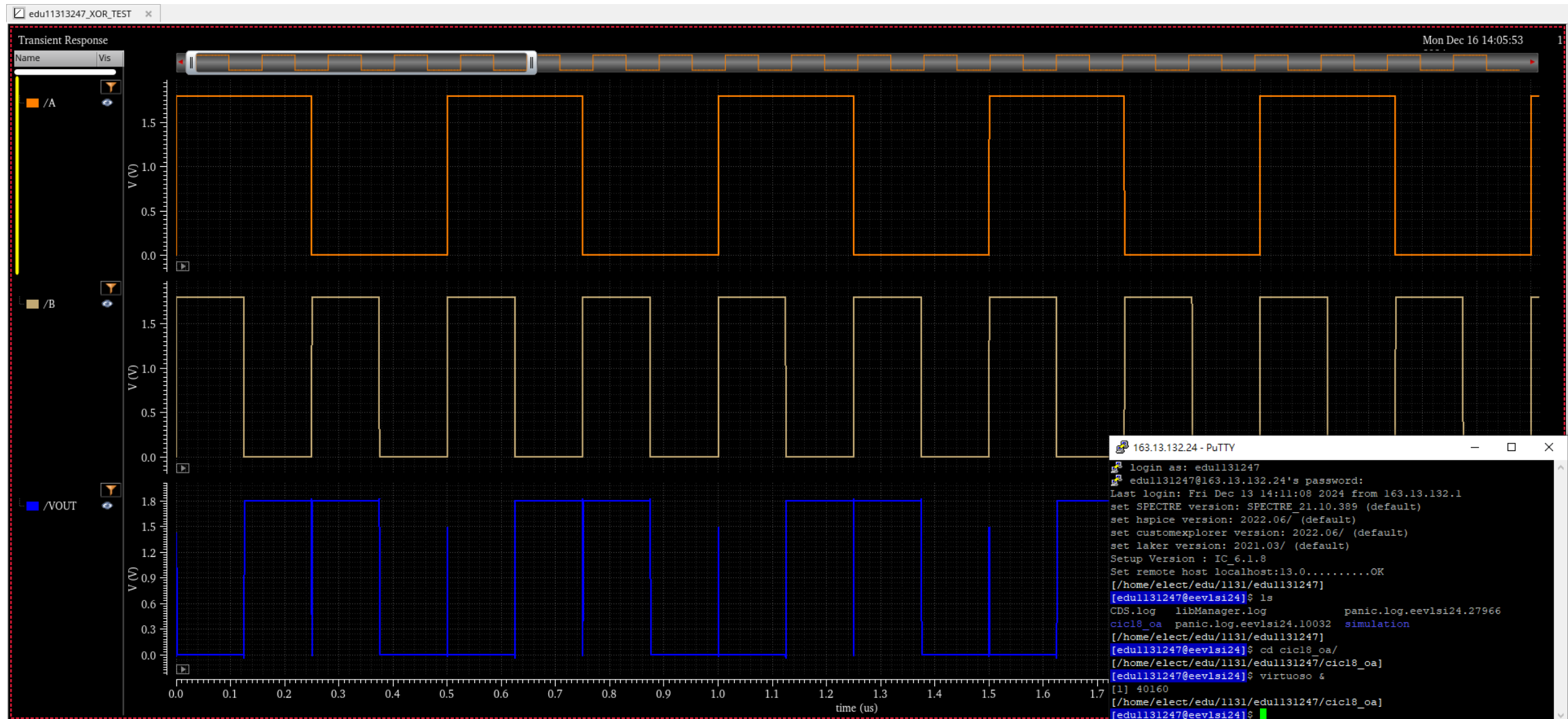
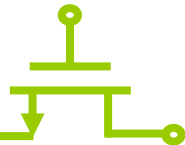
```

163.13.132.24 - PuTTY
login as: edull131247
edull131247@163.13.132.24's password:
Last login: Fri Dec 13 14:11:08 2024 from 163.13.132.1
set SPECTRE version: SPECTRE_21.10.389 (default)
set hspice version: 2022.06/ (default)
set customexplorer version: 2022.06/ (default)
set laker version: 2021.03/ (default)
Setup Version : IC_6.1.8
Set remote host localhost:13.0.....OK
[/home/elect/edu/1131/edull131247]
[edull131247@eevlsi24]$ ls
CDS.log  libManager.log      panic.log.eevlsi24.27966
cicl8_oa  panic.log.eevlsi24.10032  simulation
[/home/elect/edu/1131/edull131247]
[edull131247@eevlsi24]$ cd cicl8_oa/
[/home/elect/edu/1131/edull131247/cicl8_oa]
[edull131247@eevlsi24]$ virtuoso &
[1] 40160
[/home/elect/edu/1131/edull131247/cicl8_oa]
[edull131247@eevlsi24]$

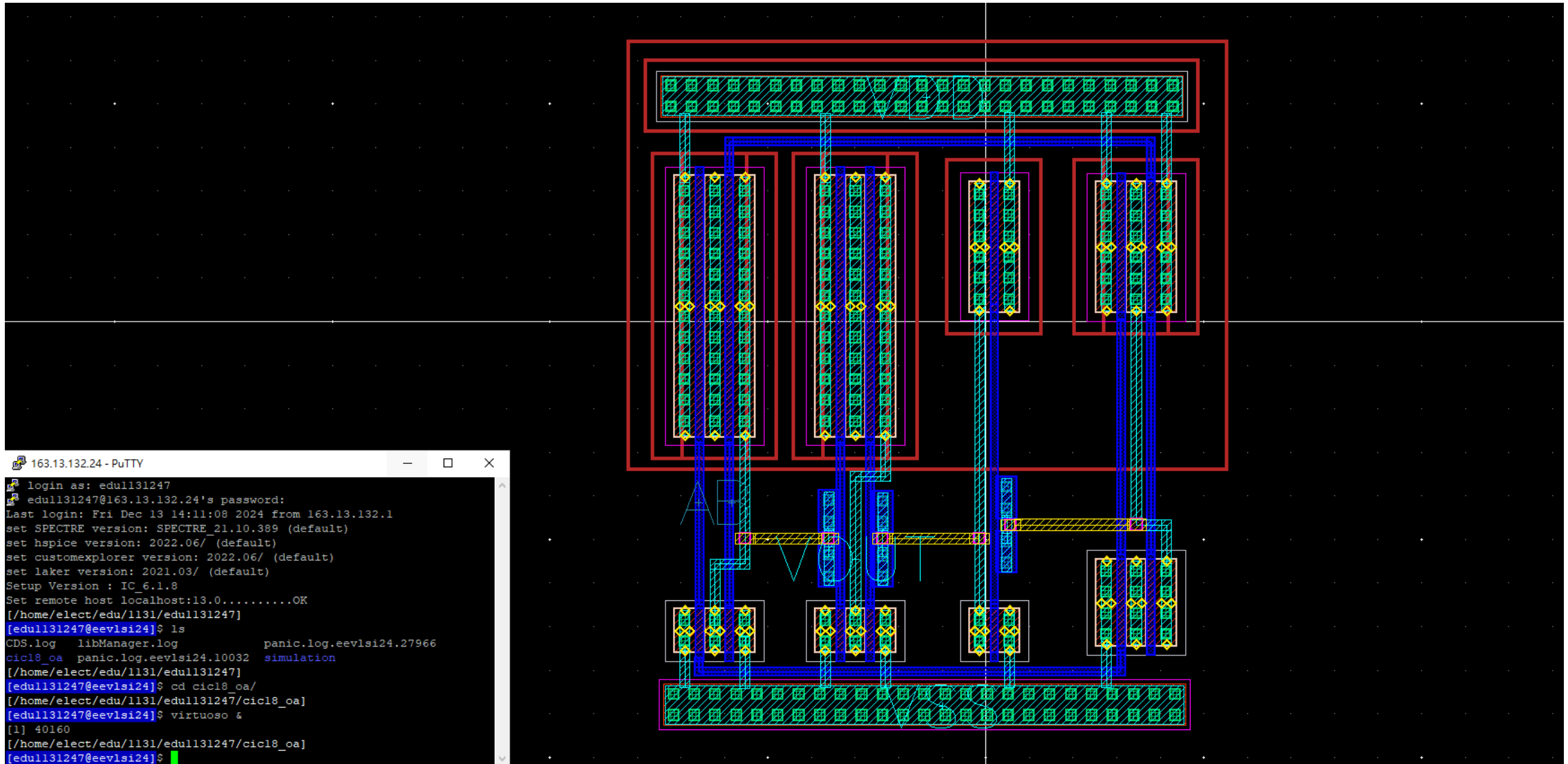
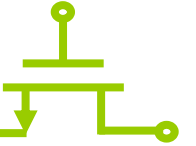
```

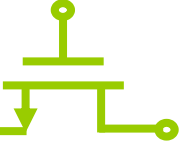


The diagram shows a logic symbol for an AND gate. It is a rectangular box with a curved left side. Inside the box, the text "[@instanceName]" is at the top and "[@partName]" is at the bottom. The left side has two inputs labeled "A" and "B". The top input "A" is connected to a terminal labeled "VDD". The bottom input "B" is connected to a terminal labeled "VSS". The right side has an output labeled "VOUT" connected to a terminal. The terminals are marked with small orange squares.



XOR Layout





Calibre - RVE v2021.1_33.19 : XOR_TEST.drc.results

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Search

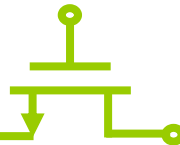
Filter: Show All No Results Found

Check / Cell Results

163.13.132.24 - PuTTY

```
login as: edull131247
edull131247@163.13.132.24's password:
Last login: Fri Dec 13 14:11:08 2024 from 163.13.132.1
set SPECTRE version: SPECTRE_21.10.389 (default)
set hspice version: 2022.06/ (default)
set customexplorer version: 2022.06/ (default)
set laker version: 2021.03/ (default)
Setup Version : IC_6.1.8
Set remote host localhost:13.0.....OK
[/home/elect/edu/1131/edull131247]
[edull131247@eevlsi24]: ls
CDS.log libManager.log panic.log.eevlsi24.27966
cicl8_oa panic.log.eevlsi24.10032 simulation
[/home/elect/edu/1131/edull131247]
[edull131247@eevlsi24]: cd cicl8_oa/
[/home/elect/edu/1131/edull131247/cicl8_oa]
[edull131247@eevlsi24]: virtuoso &
[1] 40160
[/home/elect/edu/1131/edull131247/cicl8_oa]
[edull131247@eevlsi24]:
```





2024/12/16

Thanks for your attention !!