



EE6094 CAD for VLSI Design



Checker and Makefile

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Slides Credit: TA蔡旻哲



2022/4/3

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1



Outline




- ◆Checker
- ◆Makefile




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2




Outline




- ◆ Checker
- ◆ Makefile



2022/4/3 Andy Yu-Guang Chen 3



Checker




- ◆ How to use the checker?
 - Step1: Make sure you put your checker, testcase and your output file testcase.out at the same folder.

Name	Size (KB)	Last modified
..		
checker	46	2022-03-24...
testcase1	1	2022-03-24...
testcase1.out	1	2022-03-24...

- Step2: Key in the following commands.


```
./checker testcase testcase.out
```



2022/4/3 Andy Yu-Guang Chen 4



Checker



◆ How to use the checker?

- Step2: Key in the following commands.

```
./checker testcase testcase.out
```

```
[109521143@eda359_forclass checkertest]$ ./checker testcase1 testcase1.out
```

- Step3: If you get the error, key in the following commands.

```
chmod 700 checker
```

```
[109521143@eda359_forclass checkertest]$ ./checker testcase1 testcase1.out
./checker: Permission denied.
[109521143@eda359_forclass checkertest]$ chmod 700 checker
```



2022/4/3

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5



Checker



◆ How to use the checker?

- Step4: Retry the step2.

```
./checker testcase testcase.out
```

```
[109521143@eda359_forclass checkertest]$ ./checker testcase1 testcase1.out
```



2022/4/3

Andy Yu-Guang Chen

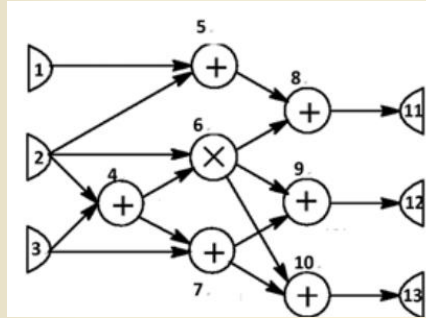
6



Checker



◆ Example



2022/4/3

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7



Checker



◆ Example

- If your program is correct. You will get “correct and total resource”

```

3
1
4 5
6 7
6
6
6
8 9 10
  
```

testcase.out

```

[109521143@eda359_forclass checkertest]$ ./checker testcase1 testcase1.out
-----CHECKER-----
testcase1 is correct!   Resource: 4
*  *  *
*  *  *
*  *  *
*  *  *
*  *  *
*  *  *
*  *  *
  
```


result




2022/4/3

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8



Checker



◆ Example

➤ If your program is wrong. You will get some information
“ERROR: the node is not adder or multiplier”.

```

3
1
15
4 5
6 7
6
6
8 9 10

```


testcase.out

```


[109521143@eda359_forclass checkertest]$ ./checker testcase1 testcase1.out
-----CHECKER-----
Error: 15 is not adder or multiplier(time:0)

```


result



2022/4/3 Andy Yu-Guang Chen 9



Checker



◆ Example

➤ If your program is wrong. You will get some information
“Resource-constrain Error”.

```

2
1
4 5
6 7
6
6
8 9 10

```


testcase.out

```


[109521143@eda359_forclass checkertest]$ ./checker testcase1 testcase1.out
-----CHECKER-----
Resource-constrain Error(time4)

```


result



2022/4/3 Andy Yu-Guang Chen 10



Checker



◆ Example

➤ If your program is wrong. You will get some information “Adder cycle Error”.

```

3
1
4 5
6 7
6 7
6
8 9 10

```


testcase.out

```


[109521143@eda359_forclass checkertest]$ ./checker testcase1 testcase1.out
-----CHECKER-----
Adder cycle Error: adder7

```


result



2022/4/3
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11



Checker



◆ Example

➤ If your program is wrong. You will get some information “Miss Error: the node is not completed”.

```

3
1
4 5
6 7
6
6
8 9

```


testcase.out

```

[109521143@eda359_forclass checkertest]$ ./checker testcase1 testcase1.out
-----CHECKER-----
Miss Error: node10 is not completed

```

result



2022/4/3
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12

Checker

◆ Example

➤ If your program is wrong. You will get some information “Dependence Error”.

3	
1	
4	7
6	5
6	
6	
8	9 10

testcase.out

```
[109521143@eda359_forclass checkertest]$ ./checker testcase1 testcase1.out
-----CHECKER-----
Dependence Error(4and7)
```

result

2022/4/3 Andy Yu-Guang Chen 13

Checker

◆ Example

➤ If your program is wrong. You will get some information “Latency Error”.

latency constrain: 5

3	
1	
cycle 1	4 5
cycle 2	6 7
cycle 3	6
cycle 4	6
cycle 5	8 9
cycle 6	10

testcase.out

```
[109521143@eda359_forclass checkertest]$ ./checker testcase1 testcase1.out
-----CHECKER-----
Latency Error
```

result

2022/4/3 Andy Yu-Guang Chen 14



Checker



◆ When you use checker to verify your outputs, please be attention to the output format requirement:

- No blank at the end of each line.
- Each node is separated by a blank.
- No extra output after the last line (including newline).



2022/4/3

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15



Checker



testcase1.out	
1	3
2	1 5
3	4
4	6
5	6
6	6 5 7
7	8 9 10

No blank

One blank

No newline



2022/4/3

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16



Outline



◆ Checker

◆ Makefile



2022/4/3

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17



Makefile



◆ In demo session, TA will test your makefile in the following commands.

- make all
- make run INPUT=testcase OUTPUT=testcase.out
- make clean

```
[109521143@eda359_forclass ~/Lab2]$ make clean
Removing objects
Removing executable file
[109521143@eda359_forclass ~/Lab2]$ make all
Creating object directory
Compiling: PA2_109521143.cpp -> build/PA2_109521143.out
Generating executable file: build/PA2_109521143.out -> go
[109521143@eda359_forclass ~/Lab2]$ make run INPUT=testcase1 OUTPUT=testcase1.out
./go testcase1 testcase1.out
[109521143@eda359_forclass ~/Lab2]$
```



2022/4/3

Andy Yu-Guang Chen

18