EE6094
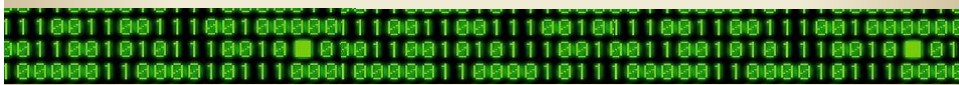## CAD for VLSI Design

PA2
Partitioning

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Slides Credit: TA Yi-Ting Lin

Outline

◆Problem description
◆Input format
◆Output format
◆Evaluation

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Problem description

◆Partition the cell set into two groups and minimize the cut size

◆Input

➢A net-list for a circuit

◆Output

➢The partition result and the cut size

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Problem description

◆ Constraints
  ➢ |size(A) – size(B)| <= n/5, where n is the number of cells in the circuit and n always > 5
  ➢ The runtime of your program is limited to at most 10 minutes per testcase

◆ Algorithm
  ➢ You are ask to implement the Simulated Annealing (SA) Algorithm
  ➢ You can use any method to find the initial solution

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Outline

◆ Problem description
◆ **Input format**
◆ Output format
◆ Evaluation

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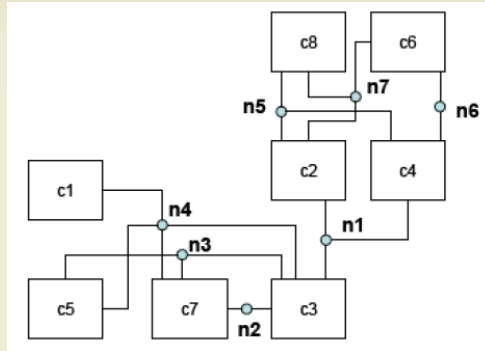
Input format

NET n1 { c2 c3 c4 }
NET n2 { c3 c7 }
NET n3 { c3 c5 c7 }
NET n4 { c1 c3 c5 c7 }
NET n5 { c2 c4 c8 }
NET n6 { c4 c6 }
NET n7 { c2 c6 c8 }

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Outline

◆Problem description
◆Input format
◆Output format
◆Evaluation

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Output format
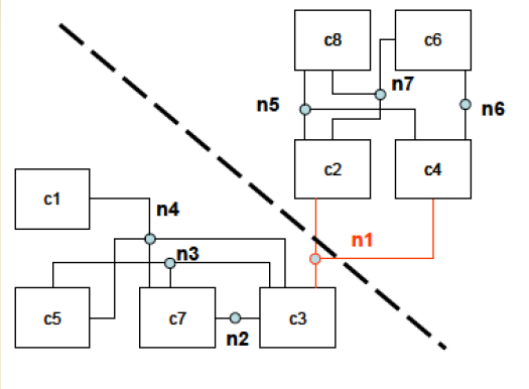
```
cut_size 1
A
c1
c3
c5
c7
B
c2
c4
c6
c8
```


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Outline

◆Problem description
◆Input format
◆Output format
◆Evaluation

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Evaluation

◆Correctness (30%)

◆Quality (20%)

◆Readability (10%)

◆The report (10%)

◆Demo session (30%)

Correctness

◆We will have 2 public cases and 5 hidden cases to judge your program

◆You will get the point if you pass the checker for each cases

Quality

◆We will rank the cut size for each cases to judge the quality of your project

Readability

◆Functions
◆The name of the variables

The report

◆In your report, you have to include at least:
  ➢Compilation and execution
  ➢Completion
  ➢Method of your design
  ➢Hardness
  ➢Suggestions
◆We don't restrict the report format and length

The report

◆You can also include
  ➢Cover
  ➢Flow charts
  ➢Code explanations
    • Concepts, functions, variables, etc.
  ➢English version
◆The grading of the report will compare yours with others
◆Remind the resolution of the figures

Demo session

◆You must show up in the demo session

◆Be familiar with your code

◆TA will test your makefile in the demo session

Q&A

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