Module Report

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Week 1 : Random bipartition implementation

Using random.choice to bipartite into two groups.

Count cells that distributed in which group in each nets to calculate cut size.

Ex : [c1,c2,c3,c4,c5]→cut size = (c1,c2), (c1,c4),(c2,c3),(c2,c5),(c3,c4),(c4,c5) = 3*2 = 6

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Cutsize = 70427
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```
Exectime:10.321696519851685
```

Week 2 : Random bipartition with cut size reduction implementation

Using random.choice to pick up cells in each group and try to exchange themselves.

Then calculate the reduction of cut size, recover if cut size doesn't decrease.

Cut reduction : Near 200.

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cut:69971
Exectime:164.1614909172058
```

Week 3: Random bipartition with Fiduccia Mattheyses

Selecting base cell and then change to other group

Check cut size whether decrease in while loop and continue iteration.

Origin :`Cut:508795`

Reduced:`Cut:508567`

Cut reduction : 228 for fist 12 iterations

Because the process of choosing base cells will cause numerous time, so I only perform iterations that prove FM has better reduction performance than previous one. Besides, constructing and calculating gain also spends lots of time.

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Exectime:4861.345532417297
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