

Monthly Meeting on October

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1 Previous work

2 Progress

3 Next step

Last month

- 1 searched an (polynomial) algorithm to partition two matroids into their common bases
- 2 found an algorithm to find all common bases in two matroids in $O(n(n^2 + t)\lambda)$

1 Previous work

2 Progress

3 Next step

References



Komei Fukuda, Makoto Namiki: “Finding all common bases in two matroids”,
Discrete Applied Mathematics 56 (1995) 231-243

Finding all common bases in two matroids

Main result

Given two matroids M_1, M_2 , and a common base B^1 , there is an algorithm finding all common bases of them in $O(n(n^2 + t)\lambda)$ where λ is number of the bases and t is time to make one pivot operation.

① Previous work

② Progress

③ Next step

next month

TODO:

- 1 learn about matroid intersection
- 2 learn how to partition a matroid into bases
- 3 tackle two different partition matroids (can be partitioned into their common bases)
- 4 generalized partition matroid of two different uniform matroids and any matroid