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A note on the set union knapsack problem. (English) Zbl 1288.05177

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Summary: Recently, *S. Khuller* et al. [Inf. Process. Lett. 70, No.1, 39–45 (1999; Zbl 1002.68203)] presented a greedy algorithm for the budgeted maximum coverage problem. In this note, we observe that this algorithm also approximates a special case of a set-union knapsack problem within a constant factor. In the special case, an element is a member of less than a constant number of subsets. This guarantee naturally extends to densest k-subgraph problem on graphs of bounded degree.

MSC:

05C60	Isomorphism problems in graph theory (reconstruction conjecture, etc.) and homomorphisms (subgraph embedding, etc.)	Cited in **1** Document
05C42	Density (toughness, etc.)	
90C10	Integer programming	
68W25	Approximation algorithms	

Keywords:

approximation; densest k-subgraph; set-union knapsack; greedy

Full Text: DOI

References:

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