

## 第 3-8 讲: 单源最短路

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评分: \_\_\_\_\_ 评阅: \_\_\_\_\_

2022 年 10 月 25 日

请独立完成作业, 不得抄袭。  
若得到他人帮助, 请致谢。  
若参考了其它资料, 请给出引用。  
鼓励讨论, 但需独立书写解题过程。

# 1 作业 (必做部分)

题目 1 (TC 24.1-2)

解答:

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题目 2 (TC 24.1-3)

解答:

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题目 3 (TC 24.1-4)

解答:

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题目 4 (TC 24.2-2)

解答:

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题目 5 (TC 24.3-2)

解答:

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题目 6 (TC 24.3-4)

解答:

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题目 7 (TC 24.3-7)

解答:

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题目 8 (TC 24.5-2)

解答:

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题目 9 (TC 24.5-5)

解答:

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题目 10 (TC Problem 24-3)

解答:

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## 2 作业 (选做部分)

题目 1 (TC Problem 24-2)

解答:

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## 3 Open Topics

### Open Topics 1 (Delta stepping algorithm)

参考资料:

- [https://en.wikipedia.org/wiki/Parallel\\_single-source\\_shortest\\_path\\_algorithm](https://en.wikipedia.org/wiki/Parallel_single-source_shortest_path_algorithm)
- Meyer, U.; Sanders, P. (2003-10-01). “ $\Delta$ -stepping: a parallelizable shortest path algorithm”.

### Open Topics 2 (Radius stepping algorithm)

参考资料:

- [https://en.wikipedia.org/wiki/Parallel\\_single-source\\_shortest\\_path\\_algorithm](https://en.wikipedia.org/wiki/Parallel_single-source_shortest_path_algorithm)
- Blelloch, Guy E.; Gu, Yan; Sun, Yihan; Tangwongsan, Kanat (2016). “Parallel Shortest Paths Using Radius Stepping”. Proceedings of the 28th ACM Symposium on Parallelism in Algorithms and Architectures - SPAA '16. New York, New York, USA: ACM Press: 443–454.

## 4 反馈