FEDERAL STATE AUTONOMOUS EDUCATIONAL INSTITUTION
OF HIGHER EDUCATION
ITMO UNIVERSITY

Report
on the practical task No. 8
”Practical analysis of advanced algorithms.”

Performed by
Mikhail Grigoryev (370852)
Semenova Valeria (370061)
Academic group J4133c
Accepted by
Dr Petr Chunaev

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Goal

Practical analysis of advanced algorithms.

Formulation of the problem

Choose two algorithms not considered in the course from the selected sections of the book *Introduction to algorithms* by *Thomas H. Cormen et. al.*, implement them and produce experiments on them considering their time and space complexity. Analyze the results of experiments as well as theoretical foundations of the algorithms.

Brief theoretical part

The two chosen algorithms from the chapter *Minimum Spanning Trees* were Kruskal's and Prim's algorithms of finding Minimum Spanning Trees of undirected weighted graphs.

Results

Aboba.

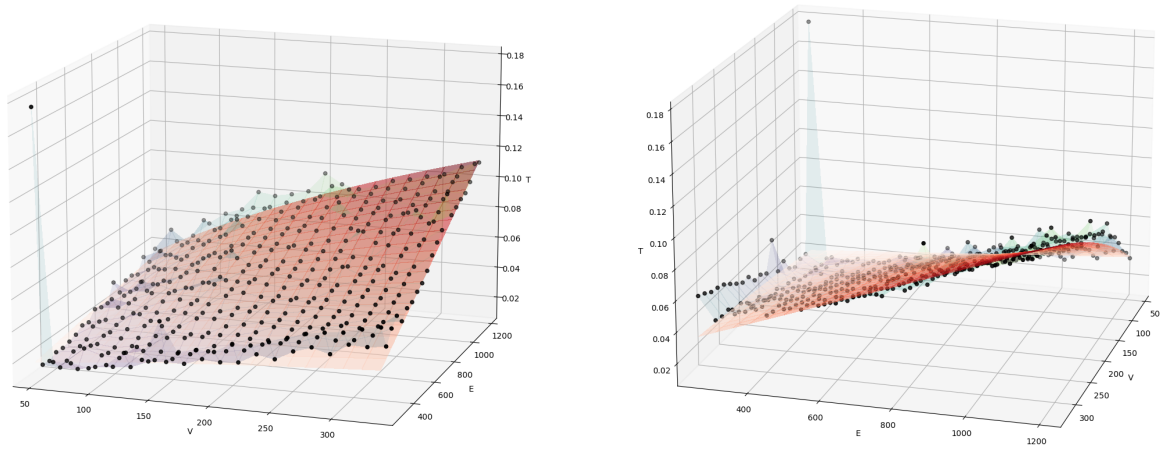

Figure 1: Theoretical time complexity surface fitted on experimental runtimes for Kruskal's algorithm.

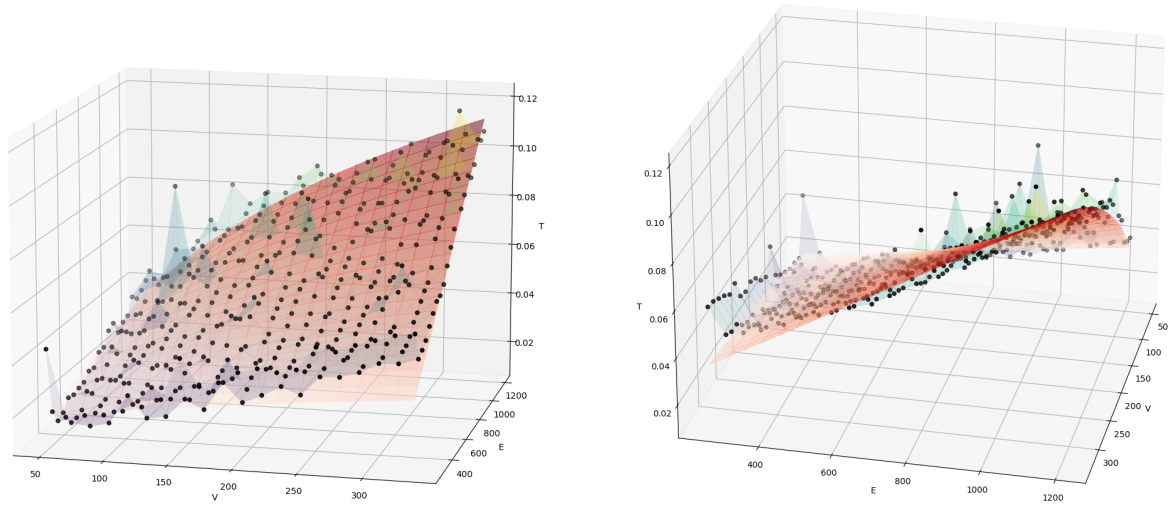

Figure 2: Theoretical time complexity surface fitted on experimental runtimes for Prim's algorithm.

Conclusions

Aboba.

Appendix

GitHub link: https://github.com/Dormant512/itmo_lab_listings/blob/main/lab8.py.