

The Performance Analysis of two Algorithms used on Simulating the “Knight’s Tour” Problem

Virtyt Lesha

Metropolitan University of Tirana
Department of Electronics and Electrical Engineering
Rruga “Leke Dukagjini”, 123, Shkodra, Albania
{virtyt.lesha}@gmail.com

Klaudia Buzo

Metropolitan University of Tirana
Department of Computer Engineering
Rruga “Pjeter Budi”. Tirana,1000 Albania
{klaudiabuzo1}@gmail.com

Abstract. *The ‘Knight’s tour’ is a classic problem considered to study the graph algorithms and node traversal. There are several algorithms that provide solutions with different levels of efficiency to this problem.*

The aim of this abstract a comparative and performance analysis of two main algorithms used to solve this problem, specifically: Warnsdorff’s heuristic and Backtracking perspectives.

The comparison of these two algorithms is performed on terms of time and space complexity. The results of comparative approach are implemented on Java programming language, concluding that Warnsdorff’s heuristic algorithm is less efficient solution.

Keywords. problem, algorithm, solution

References

Baesens, B., Backiel, A., & Broucke, S. V. (2015). *Beginning Java programming: The object oriented approach*. Indianapolis, IN: Wrox, a Wiley brand.

Brown, E. (2016). *Learning JavaScript: JavaScript essentials for modern application development*. Sebastopol, CA: O’Reilly Media.

Lassoff, M. (2017). *Java Programming for Beginners: Learn the fundamentals of programming with Java*. Birmingham: Packt Publishing.

Lott, S. (2019). *Mastering object-oriented Python: Build powerful applications with reusable code using OOP design patterns and Python 3.7*. Birmingham: Packt.

Phillips, D. (2018). *Python 3 object-oriented programming: Build robust and maintainable software with object-oriented design patterns in Python 3.8*. Birmingham, UK: Packt Publishing.

Sarcar, V. (2019). *Java design patterns A hands-On experience with real-world examples*. New York, NY: Apress.

Schildt, H. (2018). *Java: A beginner's guide*. New York: McGraw-Hill Education.

Schneider, G. M., & Gersting, J. L. (2018). *Invitation to computer science*. Clifton Park, NY: Cengage Learning.

Weisfeld, M. (2019). *Object-Oriented Thought Process*. Addison Wesley Professional.