IM1202 Knight Tour Project Report

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October 3, 2025

Abstract

This document presents a comprehensive overview of the research conducted for the IM1202 project. It includes an introduction to the problem, methodology, related work, experiments, results, and conclusions. The focus of the project is on solving the Knight Tour problem using Answer Set Programming (ASP). Key findings and insights are discussed throughout the document.

Contents

1 Introduction

Describe the Knight Tour problem and the research question here. Research questions that we discuss in this report include:

- How can the Knight's Tour problem be logically modeled so that it is solvable with Answer Set Programming (ASP)?
- Which different logical models can be used to formulate the problem?
- How does the size of the chessboard affect the complexity and solution methods?
- How can heuristics and multi-shot solving techniques be applied to improve the efficiency of solving the Knight's Tour problem with Answer Set Programming (ASP)?

2 Methodology

Describe the methods used to address the research questions, including any algorithms, tools, or frameworks employed.

3 Related Work

Discuss previous research and literature relevant to the Knight Tour problem and Answer Set Programming (ASP). Cite sources appropriately using [1].

4 Experiments and Results

Detail the experiments conducted, the data collected, and the results obtained. Use tables and figures as necessary to illustrate findings.

5 Discussion

Interpret the results in the context of the research questions. Discuss any limitations and potential implications of the findings.

6 Conclusion

Summarize the key points of the document and suggest directions for future research.

References

[1] Leslie Lamport. *LaTeX: A Document Preparation System.* Addison-Wesley, Boston, MA, 2nd edition, 1994.