INFO-F424 - Combinatorial Optimization
Project - The p-Center Problem

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Abstract

The purpose of this project is to implement two formulations of the same combinatorial optimization problem in Julia, using the JuMP package. We will start by describing the mathematical aspects of both formulations, then we will explain our implementations and discuss their performance.

Contents

1 Introduction

1.1 Implementation

1.2 Compiling and running

Compiling

Running Some example runs:

```
code
```

2 Daskin (1995)

2.1 Description

2.2 Implementation

2.3 Results

Example table:

Initial solution	Neighbourhood	Pivoting rule	ARCD	ACT
Random	Exchange	Best	36.50	23.43
Random	Exchange	First	42.66	9.70
Random	Insert	Best	3.57	24489.42
Random	Insert	First	4.20	7666.12
Random	Transpose	Best	37.57	108.45
Random	Transpose	First	28.59	72.03
Simplified-RZ	Exchange	Best	4.32	106.67
Simplified-RZ	Exchange	First	4.35	105.55
Simplified-RZ	Insert	Best	2.29	6782.88
Simplified-RZ	Insert	First	3.58	3176.73
Simplified-RZ	Transpose	Best	4.16	112.37
Simplified-RZ	Transpose	First	4.31	109.22

3 Calik and Tansel (2013)

3.1 Description

3.2 Implementation

3.3 Results

4 Conclusion

4.1 Comparison of the two formulations

4.2 Wrap-up