Programming Assignment 1 Blah

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1 Introduction

In this programming assignment, we constructed minimum spanning trees (MSTs) for complete, undirected graphs of 0, 2, and 4 dimension. We then determined how the average total weight of the MST grew as a function of the number of vertices. [PUT IN ABSTRACT?]

2 Methods

2.1 Motivation

We chose to implement the eager implementation of Prim's algorithm. Unlike....

Thus, the eager implementation of Prim's algorithm takes O(—V—) space, whereas the lazy implementation of Prim's and Kruskal's take O(—E—)

3 Results

After running our algorithm on MSTs with n vertices, where n is $2^7, 2^8, ..., 2^18$, we obtained the following results:

log_2n						
7	8	9	10	11	12	13
Dimension	0	1.11348162861502	1.1811830820657701	1.18826182143426	1.19037513986864	1.197064159
	2	7.7160457449991098	10.7974908279157	14.8518168006092	21.0932111046993	29.65684989
	3	17.832779380000002	27.59744251	43.056824859999999	67.794734030000001	107.2951336
	4	28.518424490000001	46.918836720000002	78.282120980000002	130.56701039999999	216.3980491

4 Discussion