EECS 560: Lab 11 – Comparing the performance of Kruskal and Prim Algorithm

Shane Chu

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1   Overall organization of the experiment

1.1   Code arrangement

We first use srand to generate a seed for the random function. After that, construct the matrix accordingly. Next, we use this matrix to rum Kruskal and Prim algorithm. Since we want to test the matrices in four different dimensions, repeat all the above five times (with different srand) for for each dimension.
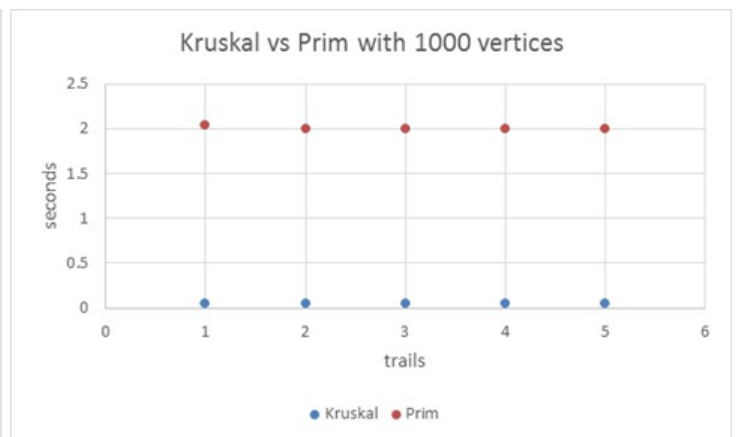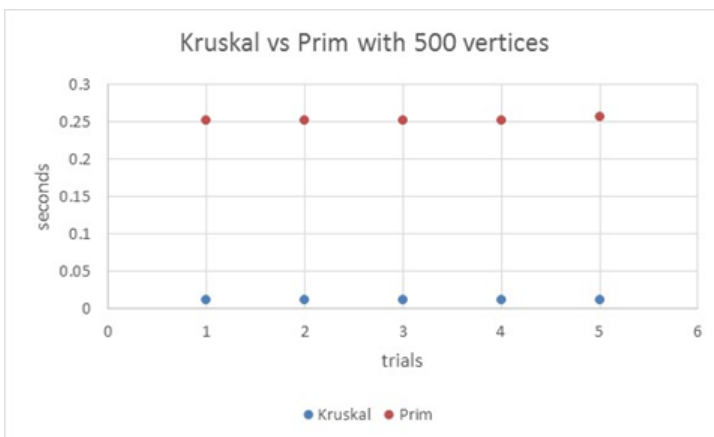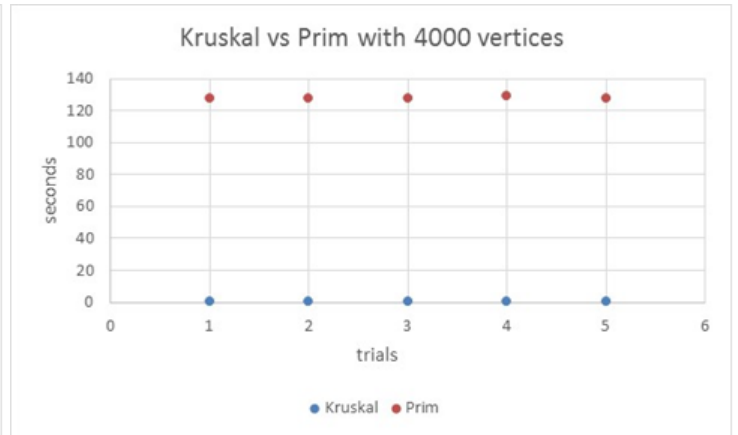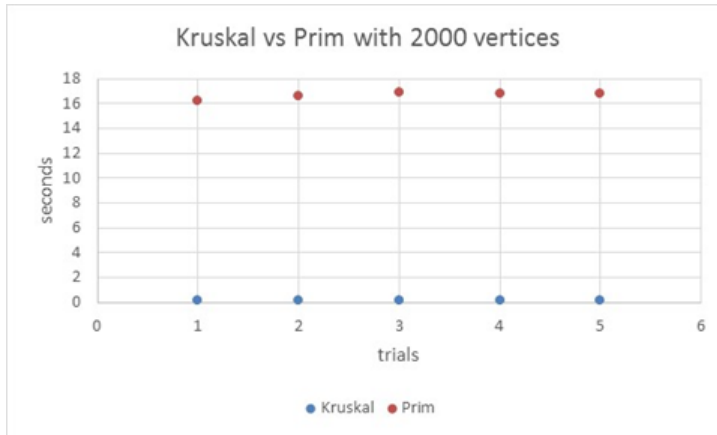
2   Data Generation

After running ./lab11, a text file result.txt is generated in the folder.

3   Results

3.1   Data

Please refer to the text file result.txt.

4 Conclusion

In this experiment, Kurskal algorithm was much faster than Prim's algorithm. We suspect that the implementation details regarding Prim's algorithm could be further improved, since theoretically, the run time complexity for Prim's algorithm is $O(n^2)$, which shouldn't deviate much from the performance from Kruskal's algorithm.