Assignment 4.

Mohib Kohi
Chris Kubec
Artem Davtyan

August 19, 2016

Brute Force:
The brute force solution checks for every possible solution that is based on the elements of the first row. Continues with populating a starting set, initializing a min value, calls method power set to attain a power set, if the power set contains 1 and n, take the min, take the row and column from the path cost, add up the sum of the path from the array with the paths, if the path is less than the minimum value assign min value.

Complexity Analysis:
The complexity is (2^n).

Result Analysis:
The brute force algorithm prints the minimum cost and we use a power set to find the minimum.

Divide and Conquer:
Divide and conquer starts off with taking two max values. Initializes a temp array, sets up a base case, recursively calls divide and conquer looking for minimum value, if find a new min value updates the old array.

Complexity Analysis:
The complexity is (n^2).

Result Analysis:
The divide and conquer algorithm prints the minimum cost runs almost 1 milliseconds faster than brute force.

Dynamic programing:
This method starts with filling the tow row of the temp Solution, starting from the current cell looks left for all the minimum values, continuing with the same column of current cell looks above for all the if find one that is less than the one on the left update the minimum. If there is a better value obtained update the current cell.

Complexity Analysis:
The complexity is (n^2).

Result Analysis:

The dynamic algorithm prints the minimum cost runs almost 1 milliseconds faster than brute force.

We all worked on the 3 different algorithms together, Artem Davtyan, also did the extra credit, Mohib Kohi wrote the report.