Programming assignment 6

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Abstract

This program is another way to do the travelling salesman problem. In this program we are going to use stacks instead of ArrayLists and it will not be a recursive algorithm. This algorithm will also be way more efficient to find the path. Note that this algorithm will not give the absolute best path that is possible but it will give an efficient algorithm. The reason it does not give the fastest path is because it is a greedy algorithm. This means that the algorithm will pick the closest city to the current city no matter what. Even if another city would make the algorithm faster in the long run, this algorithm will pick the closest city. In this algorithm we use stacks and an array. We read in the file just like we did in the Lab5 and it will create the matrix that holds all of the distances of the cities. We will then check the distance from the current city to the cities that are around it, and we pick the closest one.

OUTPUT FOR TSP12.TXT

0

5

3

8

4

1

11

6

7

10

9

2

the time it took 7.65075E-4

OUTPUT FOR TSP13.TXT

0

5

3

8

4

1

11

6

7

10

9

2

12

the time it took 7.80898E-4

OUTPUT FOR TSP14.TXT

0

5

3

8

4

1

13

11

6

7

10

9

2

12

OUTPUT FOR TSP15.TXT

the time it took 7.86886E-4

0

5

3

8

4

1

13

14

12

2

9

10

7

6

11

the time it took 8.57876E-4

OUTPUT FOR TSP16.TXT

0

5

11

8

4

1

9

3

14

13

10

15

12

7

6

2

the time it took 9.33144E-4

OTUPUT FOR TSP19.TXT

0

5

11

8

4

1

9

3

14

18

15

12

7

6

10

13

17

16

2

the time it took 9.8489E-4

OUTPUT FOR TSP29.TXT

0

27

5

11

8

4

20

1

19

9

3

14

18

24

6

22

26

23

7

15

12

17

13

21

16

10

28

25

2

the time it took 0.002495795