Kruskal problem STARTS

-------------------- uw1.txt MST OF 63 -------------------------------------

-------- Before Sort ---------------

1 8 10.0

1 2 3.0

2 3 26.0

2 5 12.0

3 4 14.0

3 6 13.0

3 5 17.0

4 9 11.0

4 6 9.0

4 7 16.0

5 6 15.0

5 8 7.0

6 7 6.0

6 8 8.0

7 8 4.0

-------- After Sort ---------------

1 2 3.0

7 8 4.0

6 7 6.0

5 8 7.0

6 8 8.0

4 6 9.0

1 8 10.0

4 9 11.0

2 5 12.0

3 6 13.0

3 4 14.0

5 6 15.0

4 7 16.0

3 5 17.0

2 3 26.0

1 -> 2 3.0 Total cost 3.0

7 -> 8 4.0 Total cost 7.0

6 -> 7 6.0 Total cost 13.0

5 -> 8 7.0 Total cost 20.0

6 -> 8 creates a loop

4 -> 6 9.0 Total cost 29.0

1 -> 8 10.0 Total cost 39.0

4 -> 9 11.0 Total cost 50.0

2 -> 5 creates a loop

3 -> 6 13.0 Total cost 63.0

3 -> 4 creates a loop

5 -> 6 creates a loop

4 -> 7 creates a loop

3 -> 5 creates a loop

2 -> 3 creates a loop

Num cities = 9

Num Road built = 8

MST COST = 63.0

n = 9

U = 8 F = 36 H = 2

-------------------- uw2.txt MST OF 93 -------------------------------------

-------- Before Sort ---------------

1 2 16.0

1 3 12.0

1 4 21.0

2 1 16.0

2 4 17.0

2 5 20.0

3 1 12.0

3 4 28.0

3 6 31.0

4 1 21.0

4 2 17.0

4 3 28.0

4 5 18.0

4 6 19.0

4 7 23.0

5 2 20.0

5 4 18.0

5 7 11.0

6 3 31.0

6 4 19.0

6 7 27.0

7 4 23.0

7 5 11.0

7 6 27.0

-------- After Sort ---------------

7 5 11.0

5 7 11.0

3 1 12.0

1 3 12.0

2 1 16.0

1 2 16.0

4 2 17.0

2 4 17.0

5 4 18.0

4 5 18.0

6 4 19.0

4 6 19.0

5 2 20.0

2 5 20.0

4 1 21.0

1 4 21.0

7 4 23.0

4 7 23.0

7 6 27.0

6 7 27.0

4 3 28.0

3 4 28.0

6 3 31.0

3 6 31.0

7 -> 5 11.0 Total cost 11.0

5 -> 7 creates a loop

3 -> 1 12.0 Total cost 23.0

1 -> 3 creates a loop

2 -> 1 16.0 Total cost 39.0

1 -> 2 creates a loop

4 -> 2 17.0 Total cost 56.0

2 -> 4 creates a loop

5 -> 4 18.0 Total cost 74.0

4 -> 5 creates a loop

6 -> 4 19.0 Total cost 93.0

4 -> 6 creates a loop

5 -> 2 creates a loop

2 -> 5 creates a loop

4 -> 1 creates a loop

1 -> 4 creates a loop

7 -> 4 creates a loop

4 -> 7 creates a loop

7 -> 6 creates a loop

6 -> 7 creates a loop

4 -> 3 creates a loop

3 -> 4 creates a loop

6 -> 3 creates a loop

3 -> 6 creates a loop

Num cities = 7

Num Road built = 6

MST COST = 93.0

n = 7

U = 6 F = 33 H = 2

-------------------- tinyEWD.txt MST OF 2.4699999999999998 -------------------------------------

-------- Before Sort ---------------

4 5 0.35

5 4 0.35

4 7 0.37

5 7 0.28

7 5 0.28

5 1 0.32

0 4 0.38

0 2 0.26

7 3 0.39

1 3 0.29

2 7 0.34

6 2 0.4

3 6 0.52

6 0 0.58

6 4 0.93

-------- After Sort ---------------

0 2 0.26

7 5 0.28

5 7 0.28

1 3 0.29

5 1 0.32

2 7 0.34

5 4 0.35

4 5 0.35

4 7 0.37

0 4 0.38

7 3 0.39

6 2 0.4

3 6 0.52

6 0 0.58

6 4 0.93

0 -> 2 0.26 Total cost 0.26

7 -> 5 0.28 Total cost 0.54

5 -> 7 creates a loop

1 -> 3 0.29 Total cost 0.8300000000000001

5 -> 1 0.32 Total cost 1.1500000000000001

2 -> 7 0.34 Total cost 1.4900000000000002

5 -> 4 0.35 Total cost 1.8400000000000003

4 -> 5 creates a loop

4 -> 7 creates a loop

0 -> 4 creates a loop

7 -> 3 creates a loop

6 -> 2 0.4 Total cost 2.24

3 -> 6 creates a loop

6 -> 0 creates a loop

6 -> 4 creates a loop

Num cities = 8

Num Road built = 7

MST COST = 2.24

n = 8

U = 7 F = 25 H = 2

-------------------- tinyEWG.txt MST OF 1.81 -------------------------------------

-------- Before Sort ---------------

4 5 0.35

4 7 0.37

5 7 0.28

0 7 0.16

1 5 0.32

0 4 0.38

2 3 0.17

1 7 0.19

0 2 0.26

1 2 0.36

1 3 0.29

2 7 0.34

6 2 0.4

3 6 0.52

6 0 0.58

6 4 0.93

-------- After Sort ---------------

0 7 0.16

2 3 0.17

1 7 0.19

0 2 0.26

5 7 0.28

1 3 0.29

1 5 0.32

2 7 0.34

4 5 0.35

1 2 0.36

4 7 0.37

0 4 0.38

6 2 0.4

3 6 0.52

6 0 0.58

6 4 0.93

0 -> 7 0.16 Total cost 0.16

2 -> 3 0.17 Total cost 0.33

1 -> 7 0.19 Total cost 0.52

0 -> 2 0.26 Total cost 0.78

5 -> 7 0.28 Total cost 1.06

1 -> 3 creates a loop

1 -> 5 creates a loop

2 -> 7 creates a loop

4 -> 5 0.35 Total cost 1.4100000000000001

1 -> 2 creates a loop

4 -> 7 creates a loop

0 -> 4 creates a loop

6 -> 2 0.4 Total cost 1.81

3 -> 6 creates a loop

6 -> 0 creates a loop

6 -> 4 creates a loop

Num cities = 8

Num Road built = 7

MST COST = 1.81

n = 8

U = 7 F = 32 H = 2

-------------------- largeEWD MST OF 647.6347342400023 -------------------------------------

Num cities = 999900

Num Road built = 999899

MST COST = 647.6347342400023

n = 999900

U = 999899 F = 46325446 H = 3

Run time for largeEWD MST = 28.092461348 secs

All tests passed

If you have enjoyed solving this interview problem write a review for me on linkedln

Kruskal problem ENDS