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
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