**Minimum Spanning Trees for N=10 Graphs**

E

Matrix:

0 62 10 73 99 9 65 37 45 17

62 0 12 42 70 5 94 35 3 77

10 12 0 5 50 65 62 96 14 91

73 42 5 0 59 12 11 28 79 61

99 70 50 59 0 62 95 3 44 24

9 5 65 12 62 0 8 67 79 70

65 94 62 11 95 8 0 38 45 38

37 35 96 28 3 67 38 0 11 97

45 3 14 79 44 79 45 11 0 55

17 77 91 61 24 70 38 97 55 0

Prim's Algorithm

MST: (6,1) (2,6) (9,2) (3,1) (4,3) (7,6) (5,9) (8,5) (10,1)

Minimum Cost = 104

Kruskal's Algorithm

MST: (8,5) (9,2) (6,2) (3,4) (7,6) (1,6) (1,3) (9,8) (1,10)

Minimum Cost = 71

0.8E

Matrix:

0 3 91 20 89 79 18 14 77 90

3 0 oo oo 33 7 70 31 54 21

91 oo 0 oo 51 68 51 72 89 67

20 oo oo 0 26 27 56 oo 44 oo

89 33 51 26 0 54 96 60 32 oo

79 7 68 27 54 0 oo 33 89 32

18 70 51 56 96 oo 0 9 5 16

14 31 72 oo 60 33 9 0 68 35

77 54 89 44 32 89 5 68 0 93

90 21 67 oo oo 32 16 35 93 0

Prim's Algorithm

MST: (2,1) (6,2) (10,2) (7,10) (9,7) (3,7) (5,9) (4,1) (8,7)

Minimum Cost = 164

Kruskal's Algorithm

MST: (2,1) (9,7) (6,2) (8,7) (1,8) (10,7) (4,1) (5,4) (7,3)

Minimum Cost = 151

0.6E

Matrix:

0 oo oo oo oo 61 oo oo oo 17

oo 0 oo oo 5 71 oo 11 14 oo

oo oo 0 oo oo oo 54 67 3 oo

oo oo oo 0 22 5 92 oo 4 oo

oo 5 oo 22 0 oo 65 oo oo 99

61 71 oo 5 oo 0 44 oo 90 oo

oo oo 54 92 65 44 0 oo 86 oo

oo 11 67 oo oo oo oo 0 oo oo

oo 14 3 4 oo 90 86 oo 0 oo

17 oo oo oo 99 oo oo oo oo 0

Prim's Algorithm

MST: (10,1) (6,1) (4,6) (9,4) (3,9) (7,6) (5,4) (2,5) (8,2)

Minimum Cost = 172

Kruskal's Algorithm

MST: (9,3) (9,4) (6,4) (5,2) (2,8) (9,2) (10,1) (7,6) (1,6)

Minimum Cost = 164

0.4E

Matrix:

0 69 oo 5 oo 47 99 oo oo oo

69 0 oo oo oo oo 82 oo oo 32

oo oo 0 oo oo oo oo oo 6 oo

5 oo oo 0 81 71 oo oo 26 oo

oo oo oo 81 0 oo oo oo oo 1

47 oo oo 71 oo 0 34 13 62 oo

99 82 oo oo oo 34 0 23 25 86

oo oo oo oo oo 13 23 0 oo oo

oo oo 6 26 oo 62 25 oo 0 31

oo 32 oo oo 1 oo 86 oo 31 0

Prim's Algorithm

MST: (4,1) (9,4) (3,9) (7,9) (8,7) (6,8) (2,1) (10,9) (5,10)

Minimum Cost = 199

Kruskal's Algorithm

MST: (10,5) (1,4) (3,9) (6,8) (8,7) (7,9) (9,4) (9,10) (2,10)

Minimum Cost = 162

0.2E

Matrix:

0 oo oo oo oo 38 oo 17 oo oo

oo 0 35 88 oo oo oo oo 2 oo

oo 35 0 oo oo oo 88 3 oo oo

oo 88 oo 0 oo oo oo oo 49 oo

oo oo oo oo 0 oo oo 13 oo 69

38 oo oo oo oo 0 oo oo 100 oo

oo oo 88 oo oo oo 0 60 oo oo

17 oo 3 oo 13 oo 60 0 oo oo

oo 2 oo 49 oo 100 oo oo 0 oo

oo oo oo oo 69 oo oo oo oo 0

Prim's Algorithm

MST: (8,1) (3,8) (2,3) (9,2) (5,8) (10,5) (6,1) (4,9) (7,8)

Minimum Cost = 286

Kruskal's Algorithm

MST: (9,2) (8,3) (5,8) (1,8) (2,3) (6,1) (9,4) (8,7) (10,5)

Minimum Cost = 286