**ulysses16.tsp**

5 13 8 10 6 14 3 11 15 1 9 12 4 0 7 2

SIGMA 1000

Iteration 1

COUNT : 20

COST:65.0

15 2 1 3 7 0 14 4 10 8 9 6 5 13 11 12

Iteration 2

COUNT : 20

COST:66.0

0 7 3 1 2 15 9 8 10 4 14 5 6 13 11 12

Iteration 3

COUNT : 10

COST:64.0

8 10 4 14 0 7 3 1 2 15 11 12 13 5 6 9

Iteration 4

COUNT : 18

COST:66.0

11 13 12 6 5 9 8 10 4 14 7 3 2 1 0 15

Iteration 5

COUNT : 18

COST:66.0

2 1 3 7 0 9 8 10 4 14 5 6 11 12 13 15

Iteration 6

COUNT : 15

COST:65.0

5 4 10 8 9 6 11 13 12 15 2 1 3 7 0 14

Iteration 7

COUNT : 21

COST:64.0

3 7 0 14 4 10 8 9 5 6 12 13 11 15 2 1

Iteration 8

COUNT : 23

COST:67.0

5 6 9 8 10 4 12 11 13 15 0 1 2 3 7 14

Iteration 9

COUNT : 20

COST:64.0

9 8 10 4 14 5 6 12 13 15 0 1 2 3 7 11

Iteration 10

COUNT : 16

COST:65.0

1 2 15 11 13 12 6 5 14 4 10 8 9 0 7 3

SIGMA 2000

Iteration 1

COUNT : 13

COST:65.0

11 12 15 2 1 3 7 0 9 8 10 4 14 5 6 13

Iteration 2

COUNT : 25

COST:64.0

11 12 15 2 1 3 7 0 14 4 10 8 9 6 5 13

Iteration 3

COUNT : 16

COST:64.0

11 0 7 3 1 2 15 9 8 10 4 14 5 6 13 12

Iteration 4

COUNT : 32

COST:66.0

0 9 8 10 4 14 5 6 12 11 13 15 2 1 3 7

Iteration 5

COUNT : 24

COST:64.0

15 2 1 3 7 0 11 12 13 6 5 14 4 10 8 9

Iteration 6

COUNT : 16

COST:62.0

10 4 14 5 6 13 12 11 15 2 1 3 7 0 9 8

Iteration 7

COUNT : 18

COST:63.0

14 4 10 8 9 6 5 13 12 11 15 2 1 3 7 0

Iteration 8

COUNT : 25

COST:63.0

14 4 10 8 9 6 5 13 11 12 15 2 1 3 7 0

Iteration 9

COUNT : 26

COST:65.0

9 8 10 4 14 15 2 1 3 7 0 12 11 13 5 6

Iteration 10

COUNT : 18

COST:67.0

1 2 3 7 14 5 6 9 8 10 4 13 11 12 15 0

SIGMA 3000

Iteration 1

COUNT : 22

COST:66.0

8 10 4 6 5 14 13 11 12 0 7 3 1 2 15 9

Iteration 2

COUNT : 19

COST:66.0

11 12 13 5 4 10 8 9 6 14 0 7 3 1 2 15

Iteration 3

COUNT : 16

COST:55.0

9 15 2 1 3 7 0 13 11 12 6 5 14 4 10 8

Iteration 4

COUNT : 23

COST:66.0

15 14 5 4 10 8 9 6 11 13 12 0 7 3 1 2

Iteration 5

COUNT : 25

COST:65.0

11 6 5 9 8 10 4 14 0 7 3 1 2 15 13 12

Iteration 6

COUNT : 25

COST:65.0

13 11 7 3 2 1 0 15 12 6 9 8 10 4 14 5

Iteration 7

COUNT : 20

COST:65.0

0 15 12 11 13 5 6 9 8 10 4 14 7 3 2 1

Iteration 8

COUNT : 17

COST:65.0

2 1 3 7 0 11 12 13 5 6 9 8 10 4 14 15

Iteration 9

COUNT : 29

COST:66.0

14 4 10 8 5 6 9 0 7 3 1 2 15 12 11 13

Iteration 10

COUNT : 24

COST:66.0

2 1 3 7 0 13 11 12 6 5 14 4 10 8 9 15

SIGMA 4000

Iteration 1

COUNT : 20

COST:66.0

0 1 2 3 7 14 4 10 8 9 5 6 12 13 11 15

Iteration 2

COUNT : 30

COST:66.0

14 15 2 1 3 7 0 13 12 11 6 5 9 8 10 4

Iteration 3

COUNT : 17

COST:65.0

6 12 11 13 15 2 1 3 7 0 9 8 10 4 14 5

Iteration 4

COUNT : 19

COST:65.0

15 2 1 3 7 0 11 13 12 14 4 10 8 5 6 9

Iteration 5

COUNT : 15

COST:65.0

11 12 6 5 14 4 10 8 9 0 7 3 1 2 15 13

Iteration 6

COUNT : 22

COST:65.0

6 5 14 4 10 8 9 15 7 3 2 1 0 13 11 12

Iteration 7

COUNT : 16

COST:63.0

11 15 2 1 3 7 0 14 4 10 8 9 6 5 13 12

Iteration 8

COUNT : 14

COST:66.0

14 4 10 8 9 5 6 12 0 7 3 1 2 15 11 13

Iteration 9

COUNT : 23

COST:64.0

0 7 2 1 3 14 4 10 8 9 6 5 13 12 11 15

Iteration 10

COUNT : 19

COST:64.0

9 8 10 4 14 0 7 3 1 2 15 12 11 13 5 6

SIGMA 5000

Iteration 1

COUNT : 19

COST:65.0

7 3 2 1 0 13 12 11 6 5 14 4 10 8 9 15

Iteration 2

COUNT : 19

COST:66.0

12 6 5 14 4 10 8 9 15 0 1 2 3 7 13 11

Iteration 3

COUNT : 23

COST:66.0

12 11 13 6 5 14 4 10 8 9 15 0 1 2 3 7

Iteration 4

COUNT : 16

COST:67.0

1 2 15 12 13 14 4 10 8 9 5 6 11 0 7 3

Iteration 5

COUNT : 25

COST:66.0

4 10 8 9 15 0 1 2 3 7 13 11 12 6 5 14

Iteration 6

COUNT : 20

COST:66.0

15 3 1 2 0 7 14 4 10 8 9 6 5 13 12 11

Iteration 7

COUNT : 22

COST:66.0

3 7 0 13 11 12 6 5 9 8 10 4 14 15 2 1

Iteration 8

COUNT : 15

COST:67.0

5 13 11 12 15 7 3 1 2 0 14 4 10 8 9 6

Iteration 9

COUNT : 13

COST:66.0

11 12 13 7 3 2 1 0 15 9 8 10 4 14 5 6

Iteration 10

COUNT : 25

COST:60.0

3 2 1 0 15 12 14 4 10 8 9 5 6 11 13 7

SIGMA 6000

Iteration 1

COUNT : 25

COST:65.0

4 14 7 3 2 1 0 15 12 11 13 5 6 9 8 10

Iteration 2

COUNT : 23

COST:62.0

2 1 3 7 0 9 8 10 4 14 5 6 13 12 11 15

Iteration 3

COUNT : 23

COST:67.0

7 3 1 2 15 12 13 5 14 4 10 8 9 6 11 0

Iteration 4

COUNT : 24

COST:57.0

14 4 10 8 9 6 5 13 12 11 15 0 7 2 1 3

Iteration 5

COUNT : 24

COST:65.0

8 10 4 14 5 6 13 11 12 0 7 3 1 2 15 9

Iteration 6

COUNT : 20

COST:63.0

8 9 15 2 1 3 7 0 13 12 11 6 5 14 4 10

Iteration 7

COUNT : 15

COST:64.0

3 1 2 7 0 15 12 11 13 5 6 9 8 10 4 14

Iteration 8

COUNT : 13

COST:66.0

14 3 1 2 7 0 15 13 11 12 6 9 8 10 4 5

Iteration 9

COUNT : 16

COST:60.0

3 2 1 0 15 12 11 13 5 4 10 8 9 6 14 7

Iteration 10

COUNT : 19

COST:66.0

15 13 11 12 6 5 9 8 10 4 14 0 7 3 1 2

SIGMA 7000

Iteration 1

COUNT : 19

COST:65.0

15 2 1 3 7 0 12 11 13 6 5 14 4 10 8 9

Iteration 2

COUNT : 14

COST:67.0

5 14 7 3 2 1 0 15 11 12 13 4 10 8 9 6

Iteration 3

COUNT : 22

COST:66.0

2 1 3 7 0 12 11 13 6 5 14 4 10 8 9 15

Iteration 4

COUNT : 22

COST:64.0

6 5 9 8 10 4 14 13 11 12 1 2 3 7 0 15

Iteration 5

COUNT : 20

COST:65.0

9 6 11 12 13 15 2 1 3 7 0 14 5 4 10 8

Iteration 6

COUNT : 21

COST:59.0

9 8 10 4 14 7 3 2 1 0 15 13 12 11 6 5

Iteration 7

COUNT : 22

COST:65.0

11 13 5 6 9 8 10 4 14 12 15 2 1 3 7 0

Iteration 8

COUNT : 13

COST:66.0

15 11 12 13 5 6 9 8 10 4 14 0 1 2 3 7

Iteration 9

COUNT : 19

COST:66.0

8 9 15 2 1 3 7 0 12 13 11 6 5 14 4 10

Iteration 10

COUNT : 27

COST:62.0

1 3 7 0 9 8 10 4 14 5 6 13 12 11 15 2

SIGMA 8000

Iteration 1

COUNT : 20

COST:31.0

9 6 11 12 13 15 2 1 3 7 0 14 5 4 10 8

Iteration 2

COUNT : 17

COST:66.0

8 10 4 14 5 6 12 11 13 15 2 1 3 7 0 9

Iteration 3

COUNT : 25

COST:65.0

14 3 1 2 7 0 15 11 12 13 5 6 9 8 10 4

Iteration 4

COUNT : 20

COST:66.0

7 11 12 13 6 5 14 4 10 8 9 15 0 1 2 3

Iteration 5

COUNT : 22

COST:67.0

7 3 2 1 0 15 12 11 13 4 10 8 9 6 5 14

Iteration 6

COUNT : 20

COST:68.0

15 0 1 2 3 7 14 6 9 8 10 4 5 13 11 12

Iteration 7

COUNT : 20

COST:67.0

13 11 12 15 0 7 2 1 3 14 6 9 8 10 4 5

Iteration 8

COUNT : 18

COST:65.0

3 1 2 15 12 13 11 6 5 9 8 10 4 14 0 7

Iteration 9

COUNT : 14

COST:66.0

9 8 10 4 14 15 2 1 3 7 0 12 13 11 6 5

Iteration 10

COUNT : 17

COST:66.0

13 12 11 7 3 2 1 0 15 9 8 10 4 14 5 6

SIGMA 9000

Iteration 1

COUNT : 22

COST:64.0

4 10 8 9 5 6 12 11 13 15 7 3 2 1 0 14

Iteration 2

COUNT : 18

COST:66.0

14 4 10 8 9 15 2 1 3 7 0 12 11 13 6 5

Iteration 3

COUNT : 18

COST:64.0

11 9 8 10 4 14 5 6 12 1 2 3 7 0 15 13

Iteration 4

COUNT : 18

COST:67.0

0 2 1 3 7 15 11 13 12 6 5 9 8 10 4 14

Iteration 5

COUNT : 19

COST:66.0

11 12 13 5 6 9 8 10 4 14 15 2 1 3 7 0

Iteration 6

COUNT : 24

COST:63.0

8 9 6 5 13 12 11 15 2 1 3 7 0 14 4 10

Iteration 7

COUNT : 23

COST:67.0

5 14 7 3 2 1 0 15 13 11 12 4 10 8 9 6

Iteration 8

COUNT : 19

COST:66.0

9 8 10 4 14 5 6 13 12 11 0 7 3 1 2 15

Iteration 9

COUNT : 22

COST:67.0

0 2 1 3 7 15 12 13 11 6 5 9 8 10 4 14

Iteration 10

COUNT : 20

COST:66.0

9 8 10 4 5 14 15 2 1 3 7 0 13 12 11 6

SIGMA 10000

Iteration 1

COUNT : 20

COST:58.0

15 0 7 2 1 3 14 4 10 8 9 5 6 12 11 13

Iteration 2

COUNT : 26

COST:65.0

15 14 4 10 8 9 5 6 12 13 11 0 7 3 1 2

Iteration 3

COUNT : 15

COST:64.0

13 0 1 2 3 7 15 9 8 10 4 14 5 6 12 11

Iteration 4

COUNT : 21

COST:66.0

7 3 1 2 15 14 4 10 8 9 6 5 13 11 12 0

Iteration 5

COUNT : 18

COST:64.0

13 12 14 5 6 4 10 8 9 15 2 1 3 7 0 11

Iteration 6

COUNT : 22

COST:64.0

15 2 1 3 7 0 11 12 13 5 6 9 8 10 4 14

Iteration 7

COUNT : 21

COST:67.0

2 1 3 7 0 12 13 5 14 4 10 8 9 6 11 15

Iteration 8

COUNT : 24

COST:64.0

2 1 3 7 0 12 11 13 6 5 14 4 10 8 9 15

Iteration 9

COUNT : 25

COST:66.0

2 1 3 7 0 11 12 13 6 5 14 4 10 8 9 15

Iteration 10

COUNT : 24

COST:65.0

4 6 5 14 12 13 11 15 2 1 3 7 0 9 8 10