

Attendance Quiz for Lecture 8

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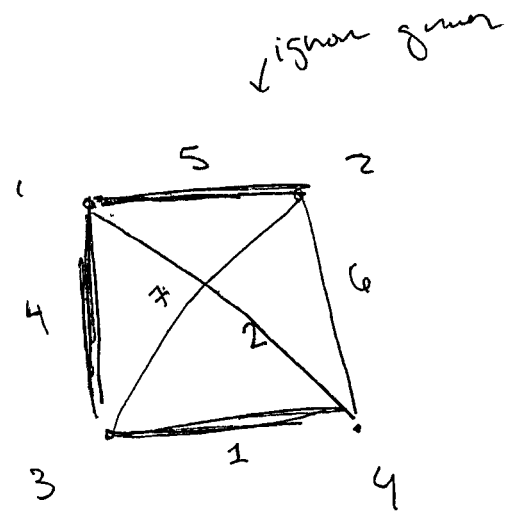
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1. There is a network of 4 cities 1, 2, 3, 4 with the following distances

- distance between 1 and 2 is 5 miles
- distance between 1 and 3 is 4 miles
- distance between 1 and 4 is 2 miles
- distance between 2 and 3 is 7 miles
- distance between 2 and 4 is 6 miles
- distance between 3 and 4 is 1 miles

Solve the travelling salesman problem for this network.

- (1) $1, 2, 3, 4 \rightarrow 5 + 7 + 1 + 2 = 15$
- (2) $1, 2, 4, 3 \rightarrow 5 + 6 + 1 + 4 = 16$
- (3) $1, 3, 2, 4 \rightarrow 4 + 7 + 6 + 2 = 19$
- (4) $1, 3, 4, 2 \rightarrow 4 + 1 + 6 + 5 = 16$
- (5) $1, 4, 2, 3 \rightarrow 2 + 6 + 7 + 4 = 19$
- (6) $1, 4, 3, 2 \rightarrow 2 + 1 + 7 + 5 = 15$
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- (7) $2, 1, 3, 4 \rightarrow 5 + 4 + 1 + 6 = 16$
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- (8) $2, 1, 4, 3 \rightarrow 5 + 2 + 1 + 7 = 15$
- (9) $2, 3, 1, 4 \rightarrow 7 + 4 + 2 + 6 = 19$
- (10) $2, 3, 4, 1 \rightarrow 7 + 1 + 2 + 5 = 15$
- (11) $2, 4, 1, 3 \rightarrow 6 + 2 + 4 + 7 = 19$
- (12) $2, 4, 3, 1 \rightarrow 6 + 1 + 4 + 5 = 16$



- (13) $3, 1, 2, 4 \rightarrow 4 + 7 + 6 + 2 = 19$
- (14) $3, 1, 4, 2 \rightarrow 4 + 2 + 6 + 7 = 19$
- (15) $3, 2, 1, 4 \rightarrow 7 + 5 + 2 + 1 = 15$
- (16) $3, 2, 4, 1 \rightarrow 7 + 6 + 2 + 4 = 19$
- (17) $3, 4, 1, 2 \rightarrow 1 + 2 + 5 + 7 = 15$
- (18) $3, 4, 2, 1 \rightarrow 1 + 6 + 5 + 4 = 16$
- (19) $4, 1, 2, 3 \rightarrow 2 + 5 + 7 + 1 = 15$
- (20) $4, 1, 3, 2 \rightarrow 2 + 4 + 7 + 6 = 19$
- (21) $4, 2, 1, 3 \rightarrow 6 + 5 + 4 + 1 = 16$
- (22) $4, 2, 3, 1 \rightarrow 6 + 7 + 4 + 2 = 19$
- (23) $4, 3, 1, 2 \rightarrow 1 + 4 + 5 + 6 = 16$
- (24) $4, 3, 2, 1 \rightarrow 1 + 7 + 5 + 2 = 15$

(any of the 15 paths.)