

Module : Operations Research 2

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Homework

Nearest Neighbour Heuristic

Exercise 1: Answer the following TSP problem using the Nearest Neighbour Heuristic

| | A | B | C | D | E | F |
|---|----|----|----|----|----|----|
| A | | 12 | 29 | 22 | 13 | 24 |
| B | 12 | | 19 | 3 | 25 | 6 |
| C | 29 | 19 | | 21 | 23 | 28 |
| D | 22 | 3 | 21 | | 4 | 5 |
| E | 13 | 25 | 23 | 4 | | 16 |
| F | 24 | 6 | 28 | 5 | 16 | |

Exercise 2:

In the class, we solved the following Traveling Salesman Problem using the Nearest Neighbor Heuristic (NNH).

| | A | B | C | D | E | F | G |
|---|----------|----------|----------|----------|----------|----------|----------|
| A | ∞ | 14 | 21 | 20 | 6 | 24 | 9 |
| B | 14 | ∞ | 10 | 9 | 9 | 10 | 11 |
| C | 21 | 10 | ∞ | 1 | 15 | 9 | 21 |
| D | 20 | 9 | 1 | ∞ | 14 | 9 | 20 |
| E | 6 | 9 | 15 | 14 | ∞ | 19 | 9 |
| F | 24 | 10 | 9 | 9 | 19 | ∞ | 21 |
| G | 9 | 11 | 21 | 20 | 9 | 21 | ∞ |