Network Optimization

Breadth First Search
Initialize

Unmark all nodes in N;
Mark node 1 and add it to LIST.

Breadth first search animation
Select node 1

Select the first node in LIST.

Arc numbers for arcs in A(i) refer to the order in which arcs of A(i) are scanned.
Scan arcs (1,2)

Find an admissible arc

LIST
1 2

Breadth first search animation
Select node 1 and find an admissible arc.

Scan arc (1,5)

LIST

Breadth first search animation
Select node 1 and find an admissible arc.

LIST

1 2 5 3
Delete Node 1 from LIST

LIST

1 2 5 3

Breadth first search animation
Select Node 2

Select first node on LIST

1 → 2 → 4 → 5 → 3 → 6 → 7 → 8 → 9

LIST: 2 5 3
Scan arc (2, 4)

Select an admissible arc

LIST

2 5 3 4
Scan arc (2, 5)

Ignore any scanned arcs out of node 2 that are not admissible.

LIST

2 5 3 4

Breadth first search animation
Delete node 2

Delete node 2 from LIST

LIST

2 5 3 4

Breadth first search animation
Select node 5

Select the first node on LIST

Breadth first search animation
Scan arc (5,6)

Find an admissible arc

LIST

5 3 4 6
Delete node 5

Delete node 5 from LIST

LIST

5 3 4 6
Select node 3

Select first node on LIST

LIST

3 4 6
Scan arcs out of node 3

Ignore any scanned arc that is not admissible.

LIST

3 4 6
Delete node 3 from LIST
Select node 4

Select the first node on LIST

LIST

Breadth first search animation
Look for an admissible arc.

LIST

4 6 8
Look for an admissible arc

LIST

4 6 8
Delete Node 4

Delete node 4 from LIST

LIST

4 6 8

Breadth first search animation
Select node 6

Select the first node on LIST

LIST

Breadth first search animation
Scan arcs out of node 6 one at a time.

LIST
6 8 7
Scan arcs out of node 6 one at a time.
Delete node 6 from LIST

Delete node 6

LIST

Breadth first search animation
Select node 8

Select first node on LIST

LIST

Breadth first search animation
Delete node 8

Delete node 8

LIST

8 7 9
Select node 7

Select first node on LIST

Breadth first search animation
Scan arcs out of node 7

Scan arcs out of node 7 one at a time.

LIST

7 9
Delete node 7

Delete node 7 from LIST

LIST

Breadth first search animation
Select node 9

Select the first node on LIST

LIST

Breadth first search animation
Scan arcs out of node 9, one at a time
Delete node 9

Delete node 9 from LIST

LIST

Breadth first search animation
THE END