If Router B and D notice that their link is broken, they will update their own routing table first. Mathematically, the distance is set to infinity. But in our network.config, we can set the corresponding weight to int max (9999).

failure.config

```
1    0 4 0 0 2 6
2    4 0 0 9999 0 1
3    0 0 0 1 0 1
4    0 9999 1 0 0 0
5    2 0 0 0 0 3
6    6 1 1 0 3 0
7    EOF
```

After B and D will update their network config, all other nodes that use the link will need to update their values.

The nodes that were previously using the B-D link to reach each other, such as nodes A, C, and E, will have to find an alternative path to communicate.

Node A will have to add an extra hop to reach node D through node C.
Node C will have to use Node F as an intermediary to reach Node B and cannot use Node D as an intermediary.

For example , here is the new routing table for A.

```
Router table updated: {'5051': 4, '5054': 2, '5055': 5, '5053': 7, '5052': 6}
```

(In our example , even if the total weight is the same , we went from A-F-C-D instead of A-B-D)

Overall, the loss of the B-D link will increase the path lengths between some pairs of nodes and may cause some network congestion as traffic is rerouted along alternative paths.