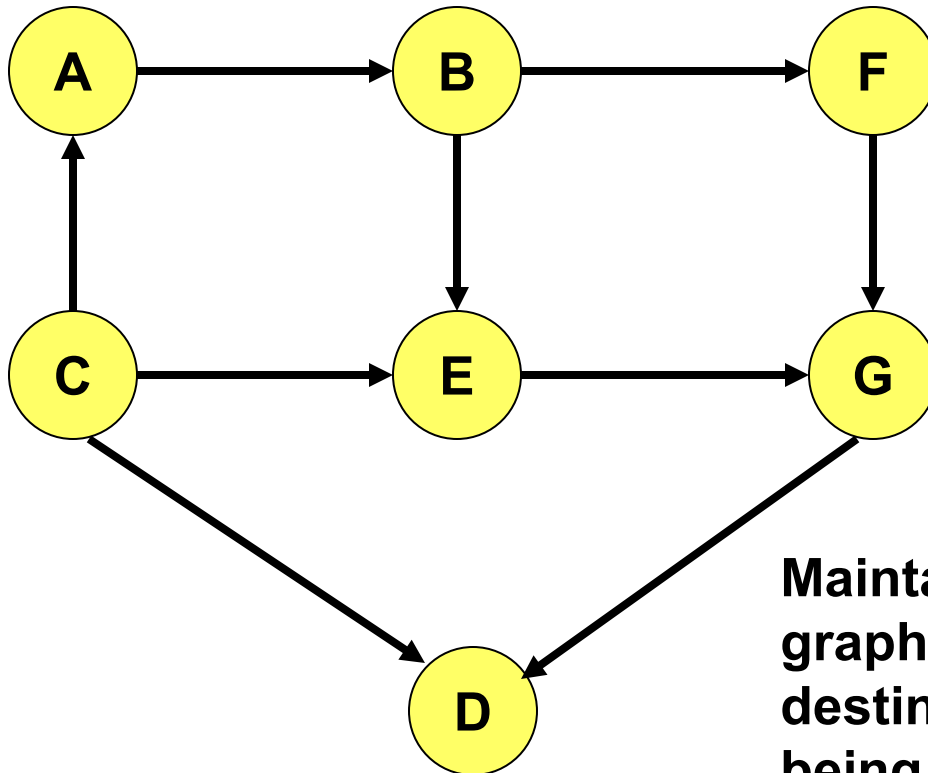# Link Reversal Routing

"Full" Link Reversal Algorithm

- The algorithm determines routes to one specific destination

- When there are multiple destination, one instance of the algorithm is used for each destination separately

- These slides focus on one instance of the algorithm

- In the example that follows, D is the chosen destination
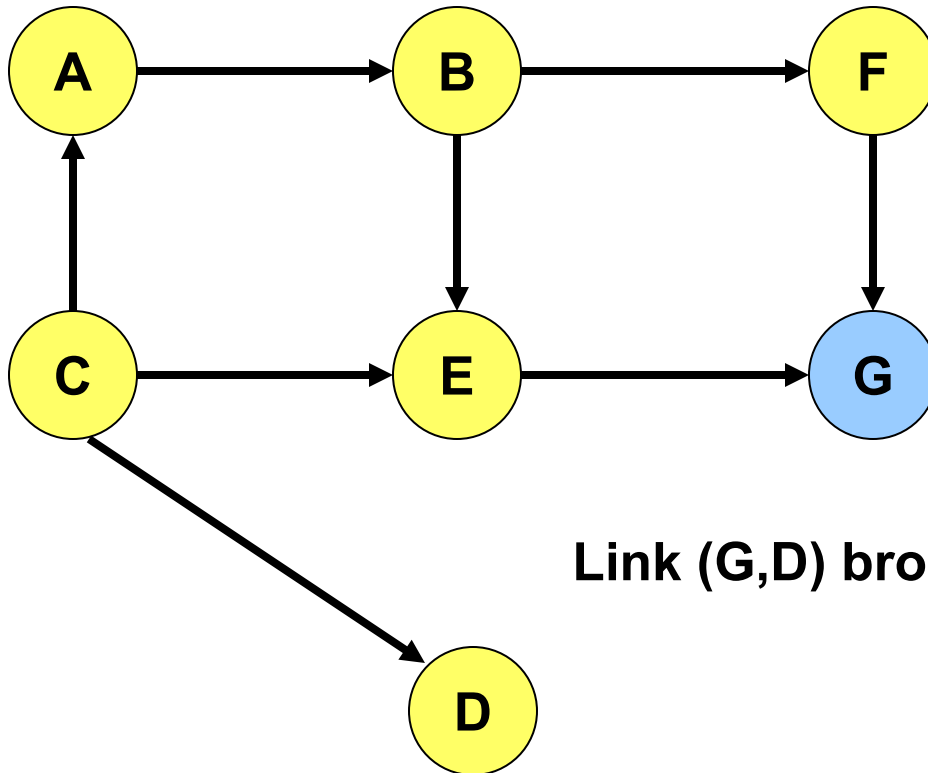
Link Reversal Algorithm

Links are bi-directional

But algorithm imposes logical directions on them

Maintain a directed acyclic graph (DAG) for each destination, with the destination being the *only sink*
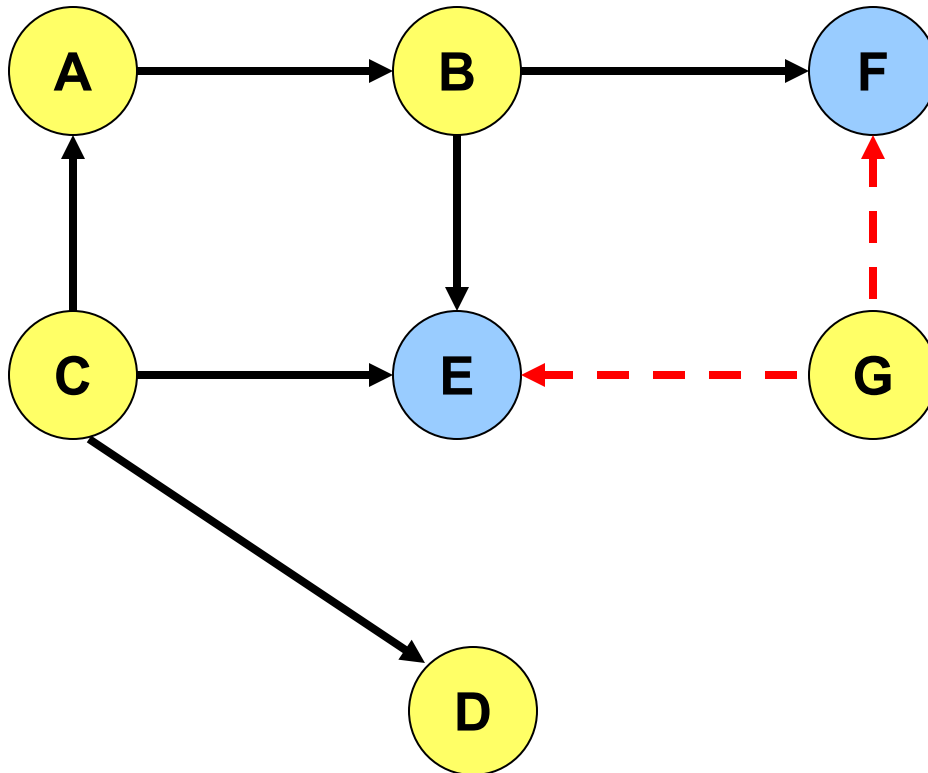
This DAG is for *destination node D*

Link Reversal Algorithm

Link (G,D) broke

Any node, other than the destination, that has no outgoing links reverses all its incoming links.
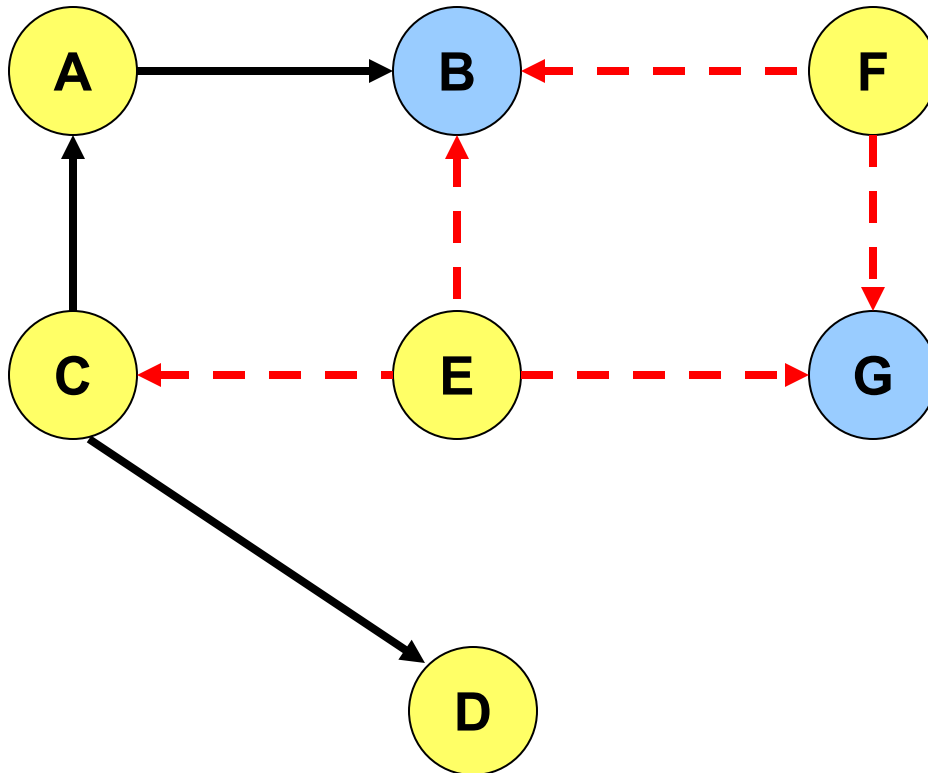
4

Node G has no outgoing links

Link Reversal Algorithm

Represents a
link that was
reversed recently

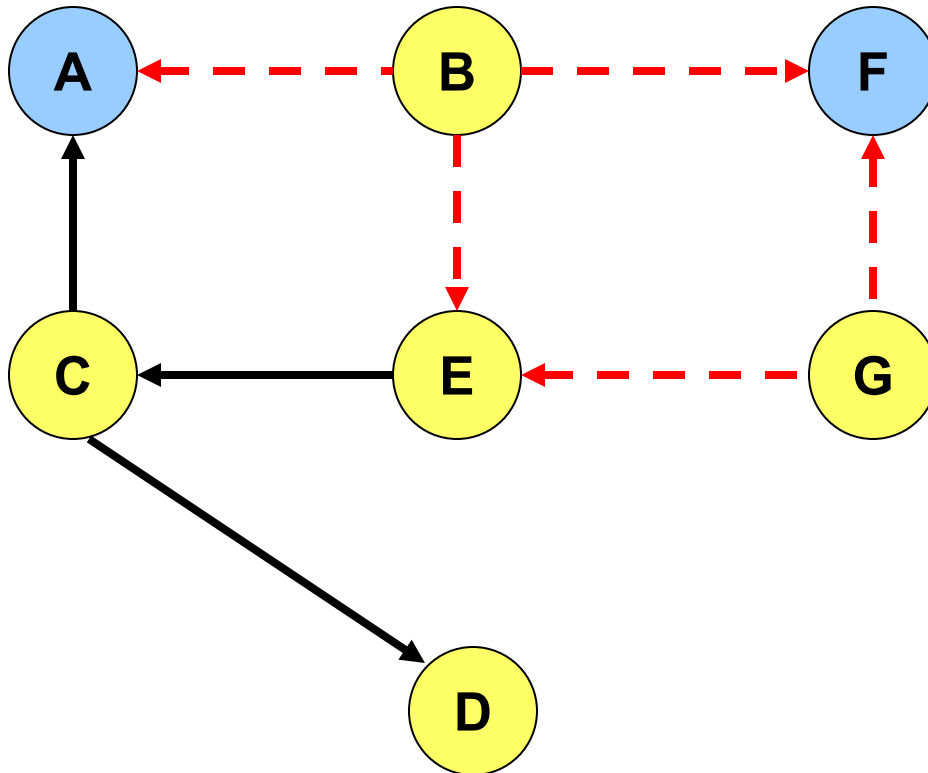Now nodes E and F have no outgoing links

Link Reversal Algorithm

Represents a
link that was
reversed recently

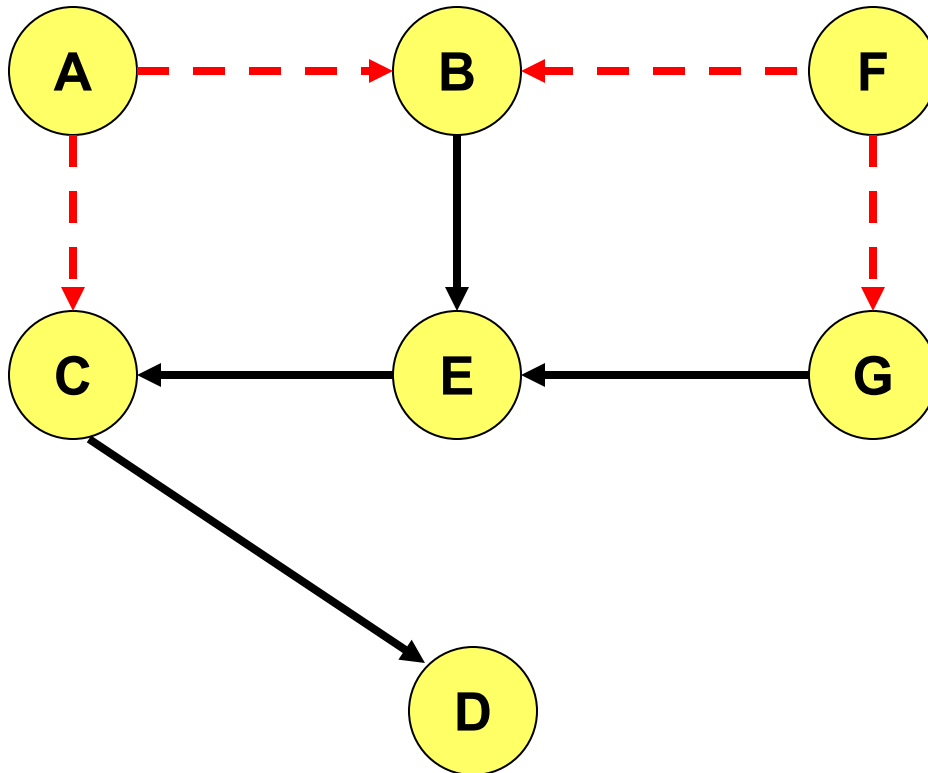**Now nodes B and G have no outgoing links**

Link Reversal Algorithm

Represents a
link that was
reversed recently

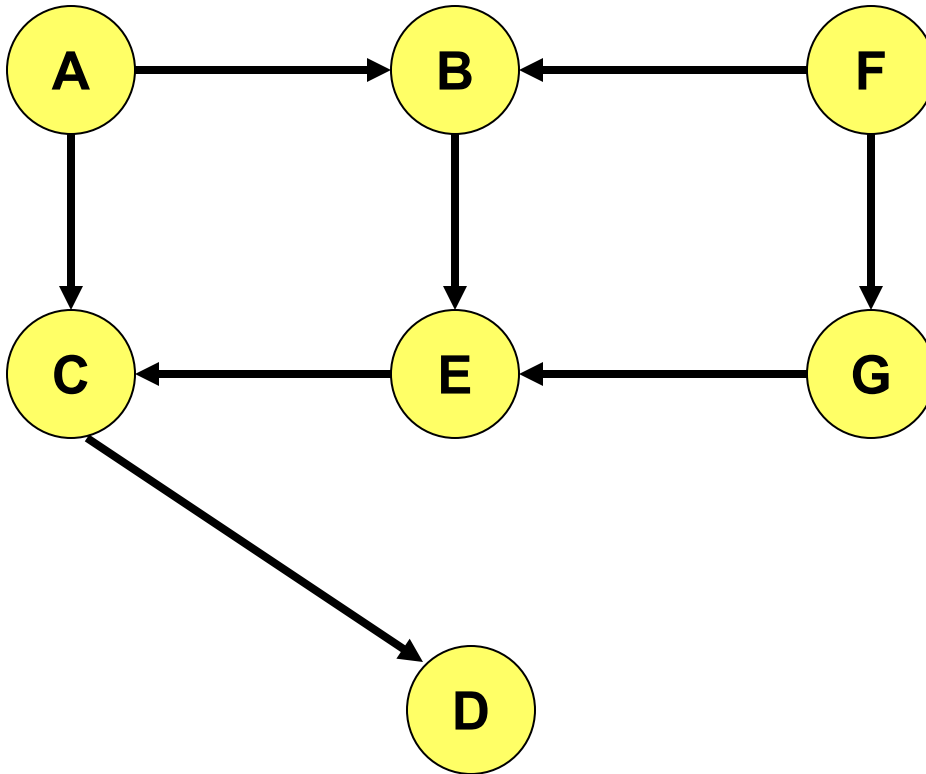Now nodes A and F have no outgoing links

Link Reversal Algorithm

Represents a
link that was
reversed recently

Now all nodes (other than destination D) have an outgoing link

Link Reversal Algorithm

DAG has been restored with only the destination as a sink