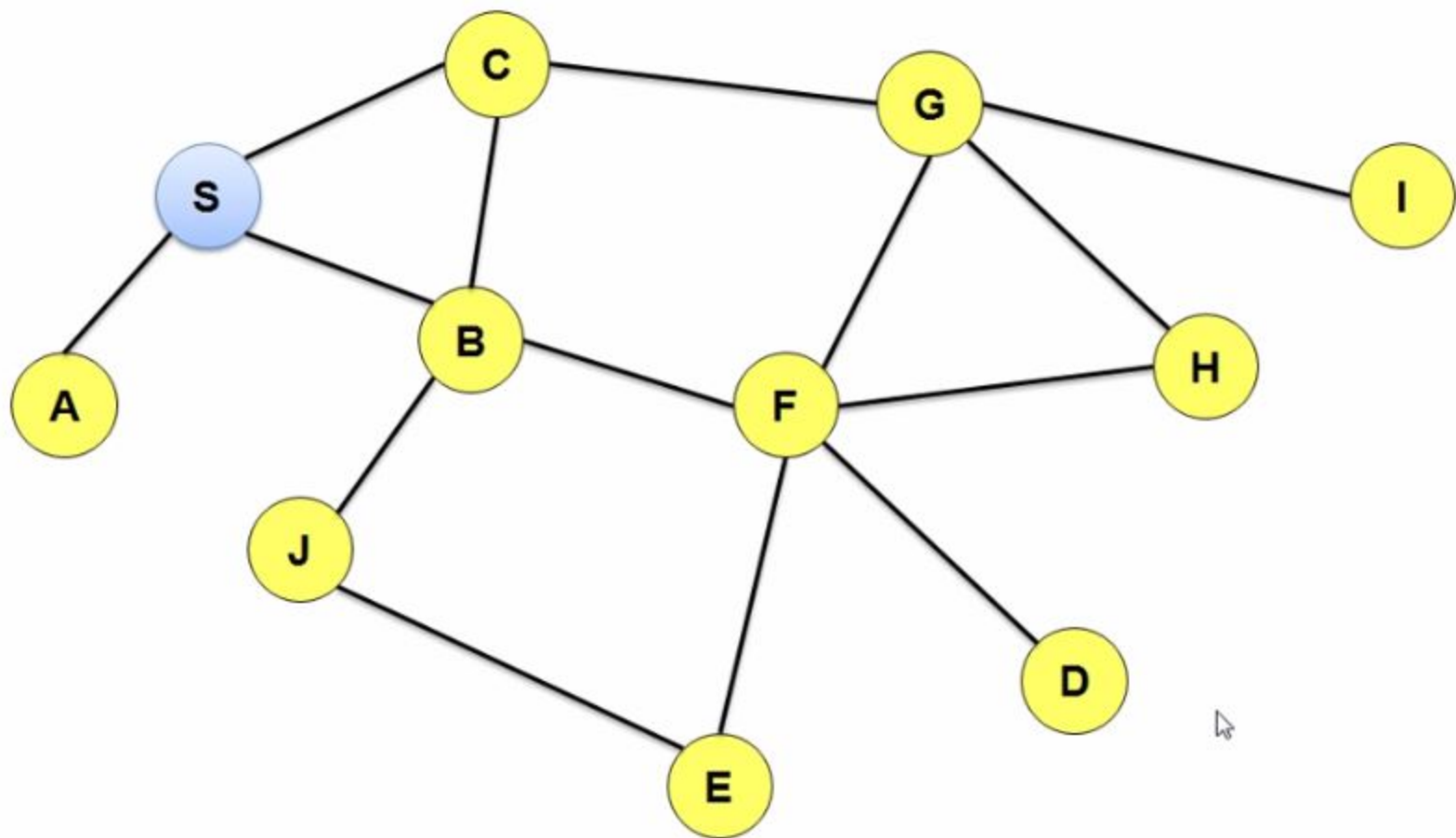
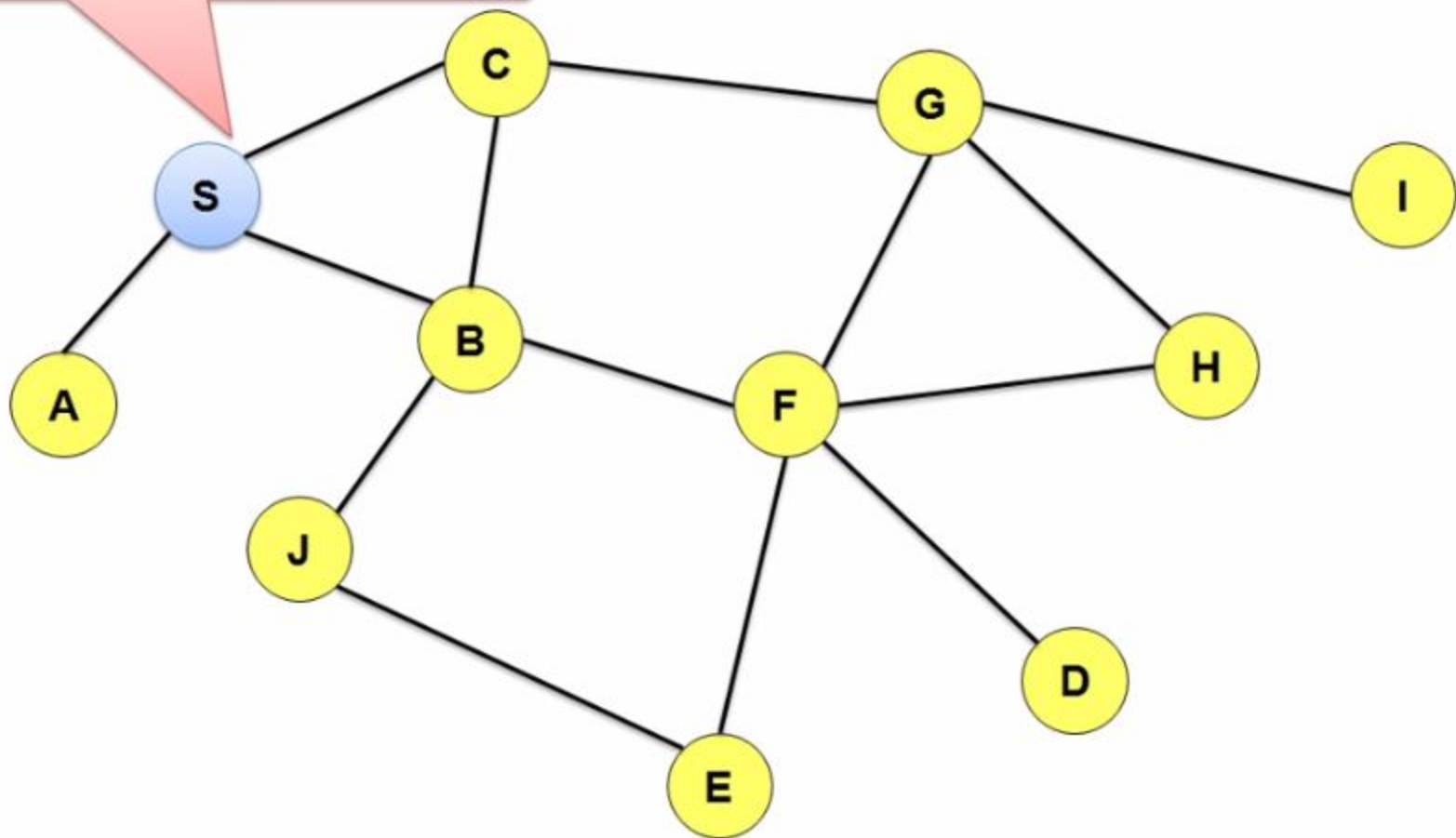


DSR(Dynamic Source Routing)



Objective: S wants to send data to node D

Don't know the route to D



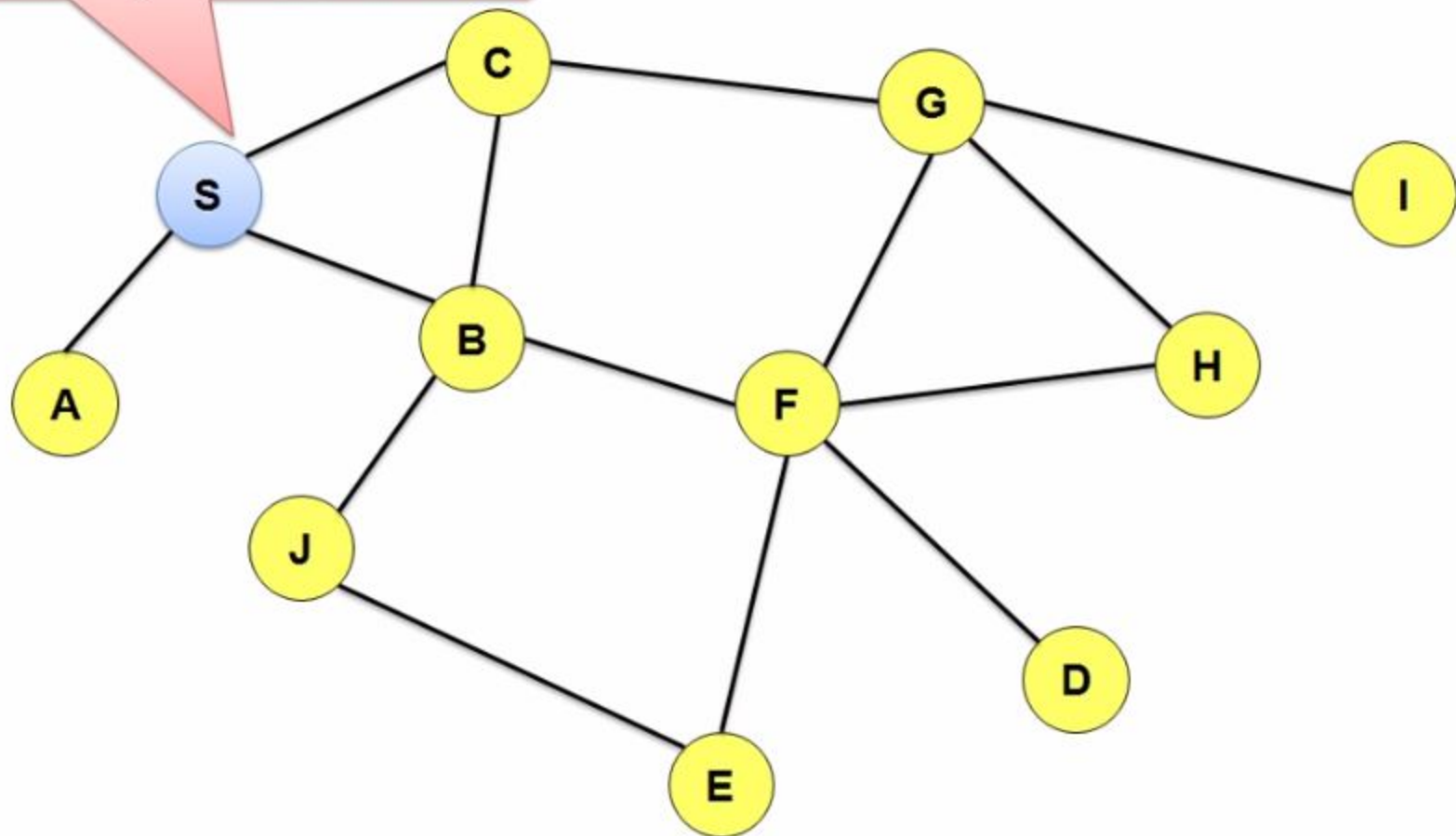
Objective: S wants to send data to node D

Phase 1

Route Discovery

Node discovering route when it's needed. That's why known as Reactive routing protocol.

I will ask my neighbour. They might know about D



Objective: S wants to send data to node D

Node S ask about route to D by sending a request packet.

RREQ

S broadcast **R**oute **REQ**uest packet.

RREQ packet contain

- Unique ID

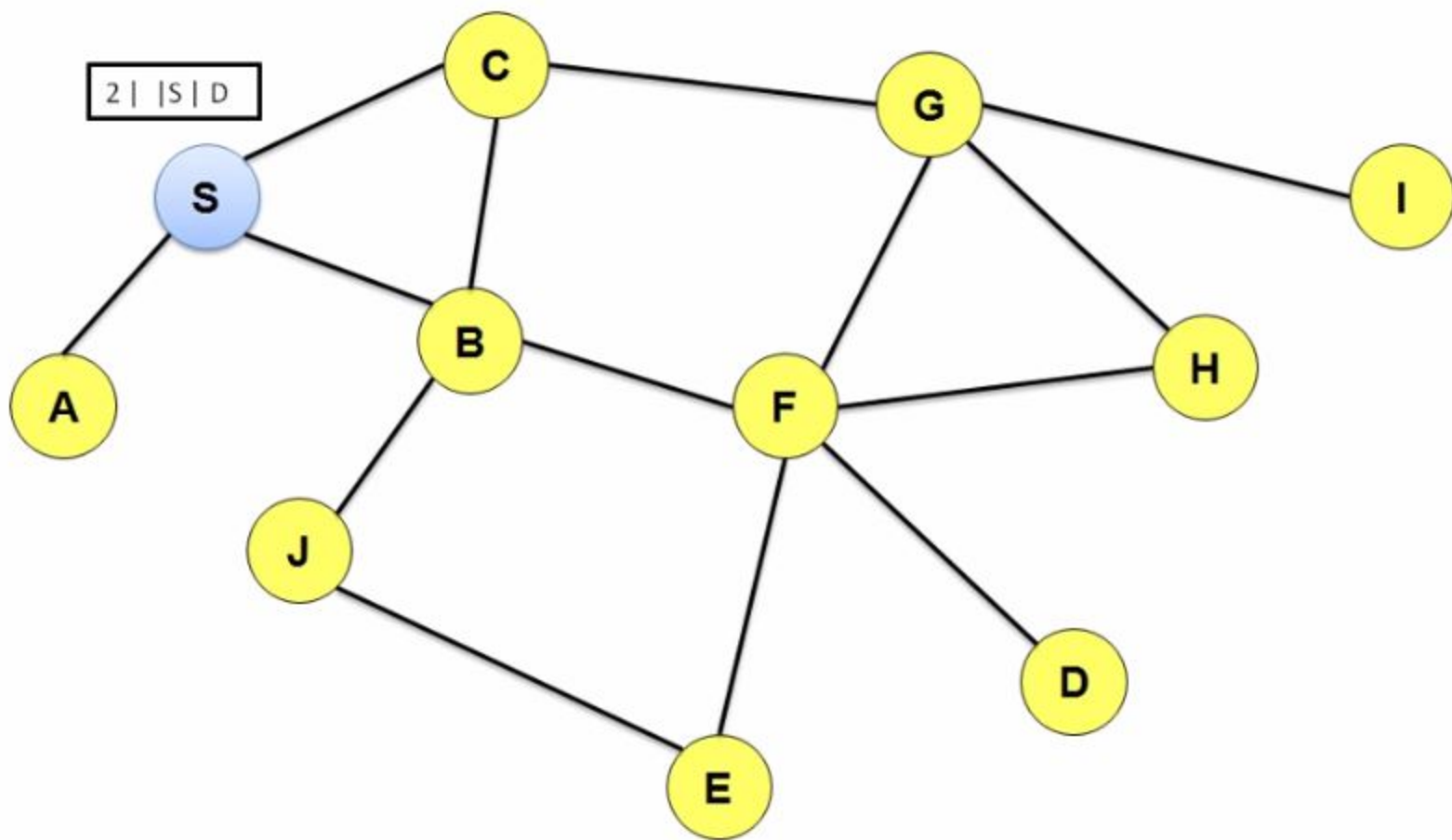
- A list of Node[Intially empty]

- Source

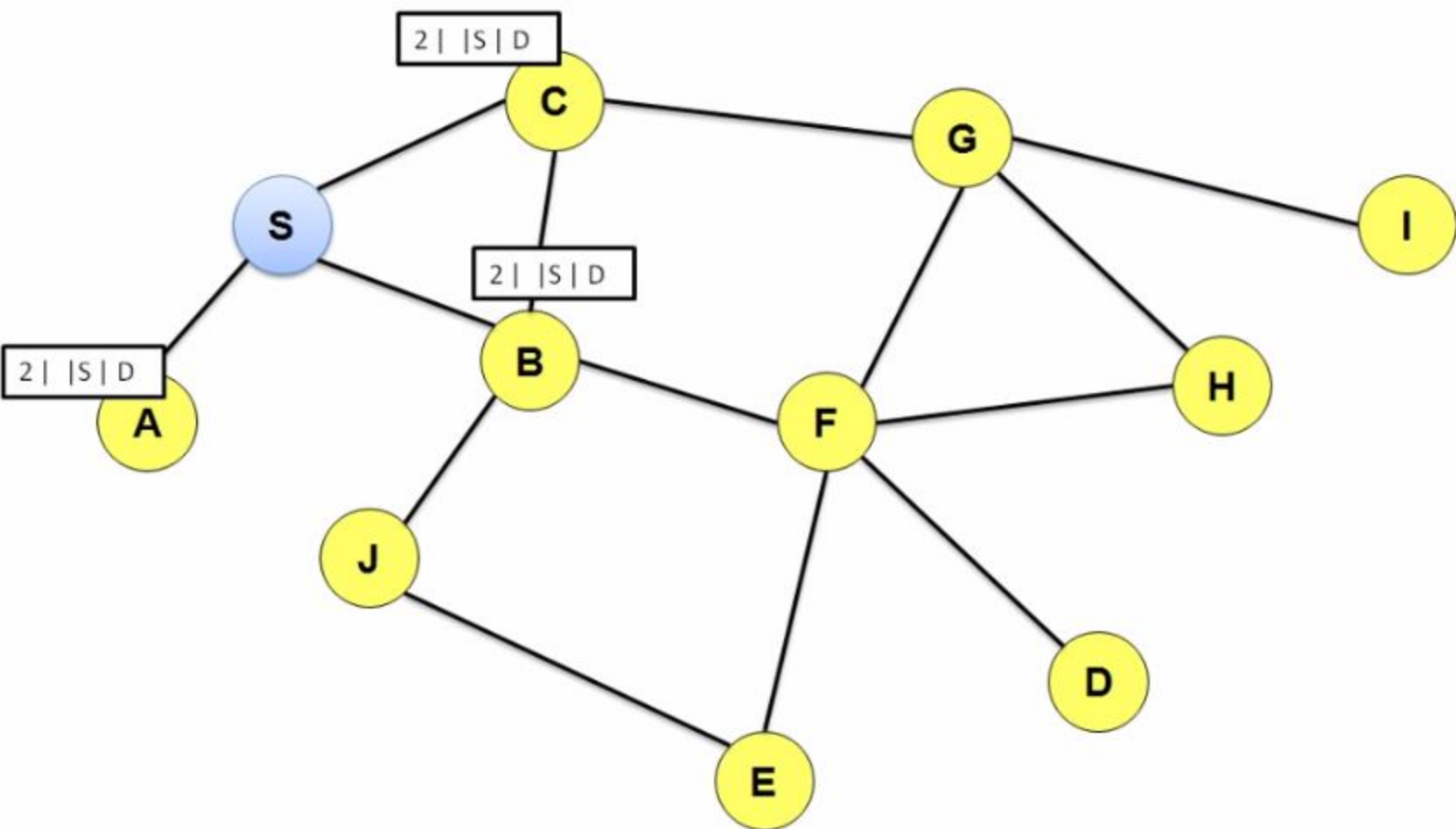
- Destination

- ...

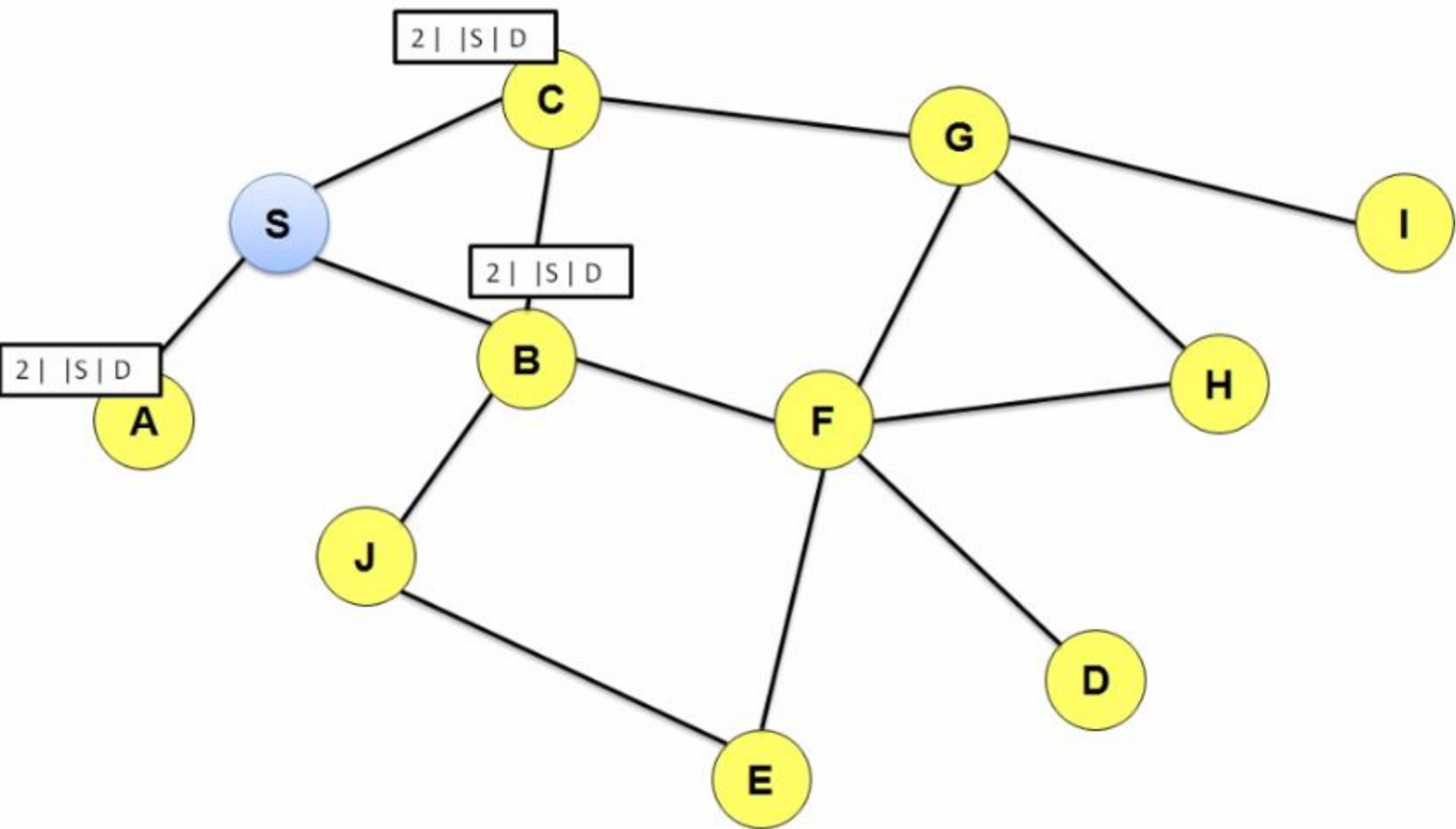
- ...



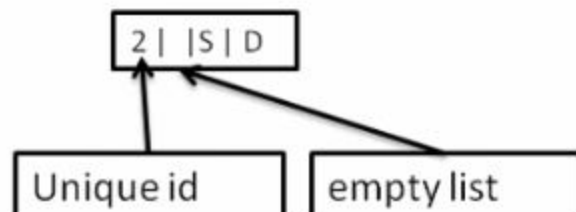
Objective: S wants to send data to node D



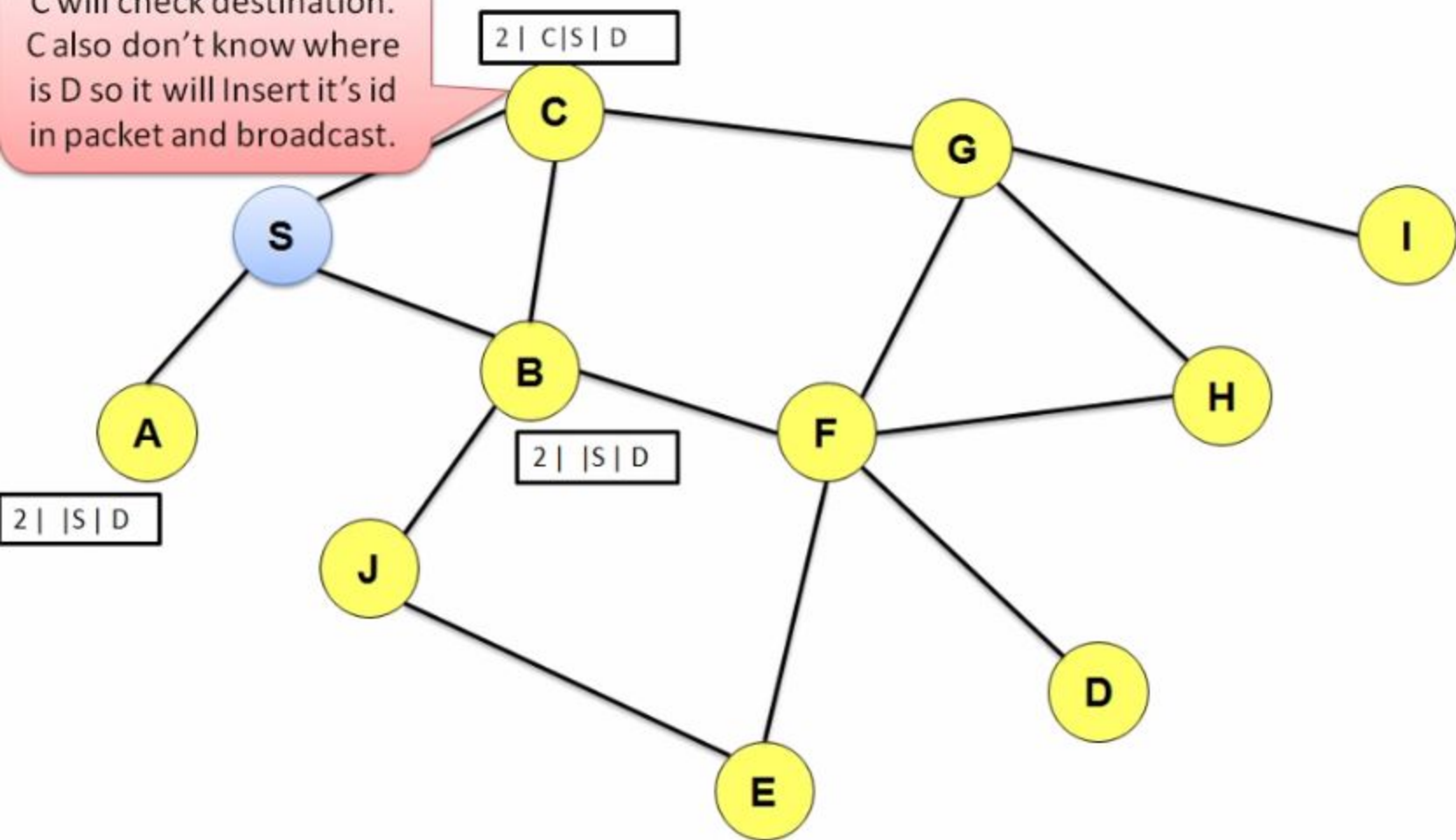
Objective: S wants to send data to node D



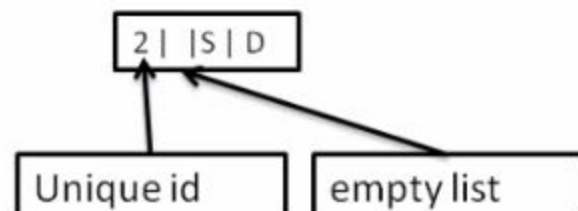
Objective: S wants to send data to node D

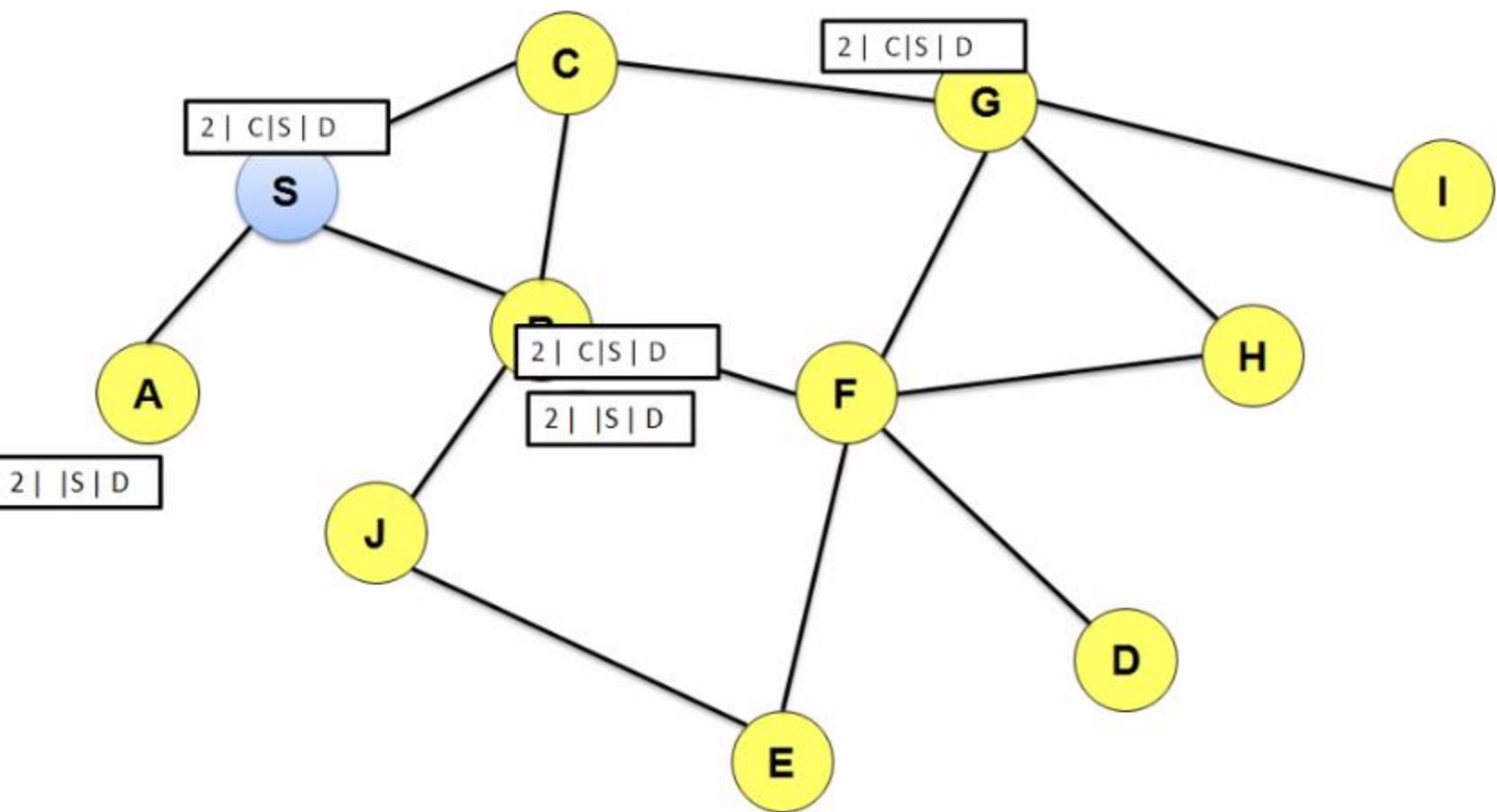


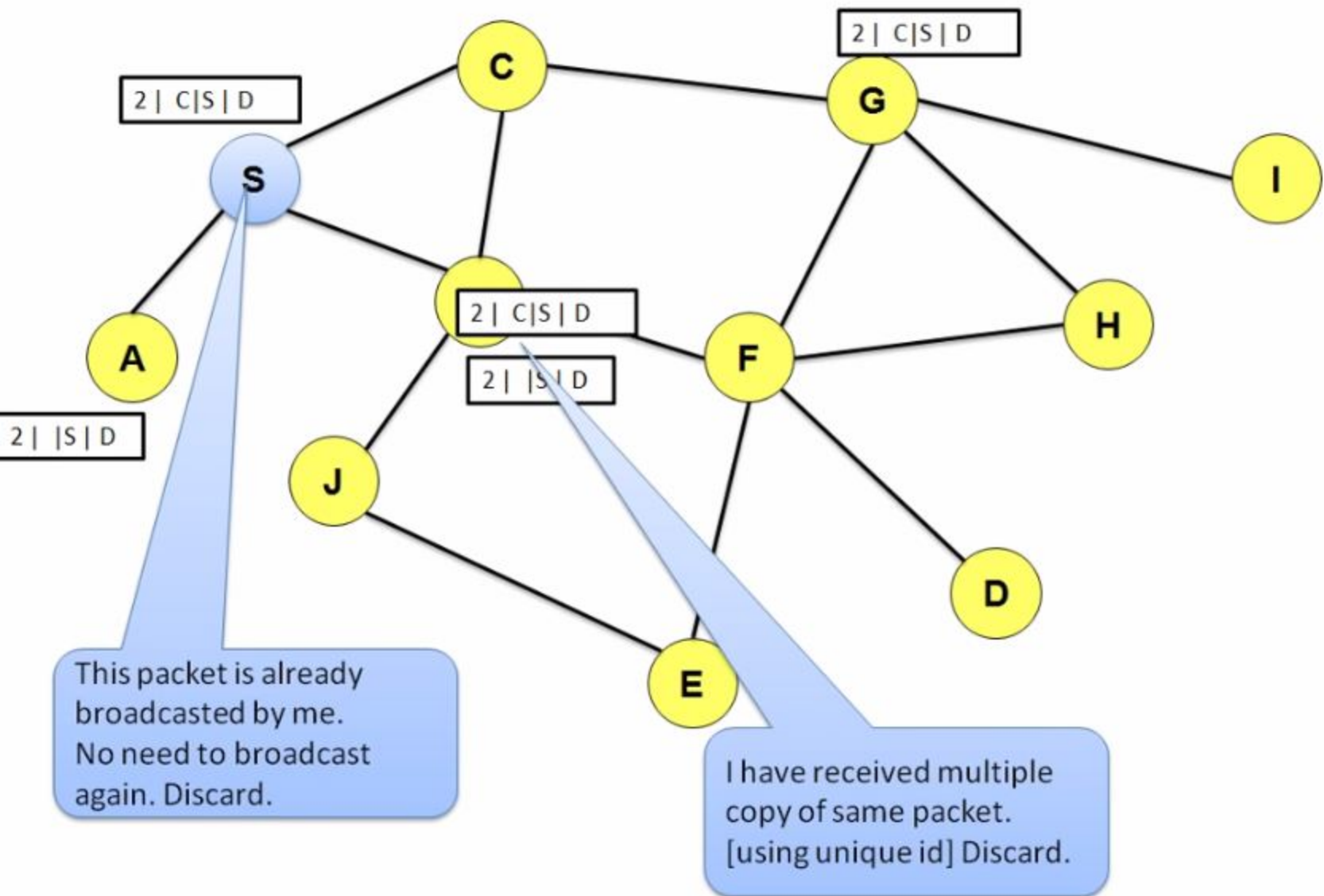
C will check destination.
C also don't know where
is D so it will Insert it's id
in packet and broadcast.

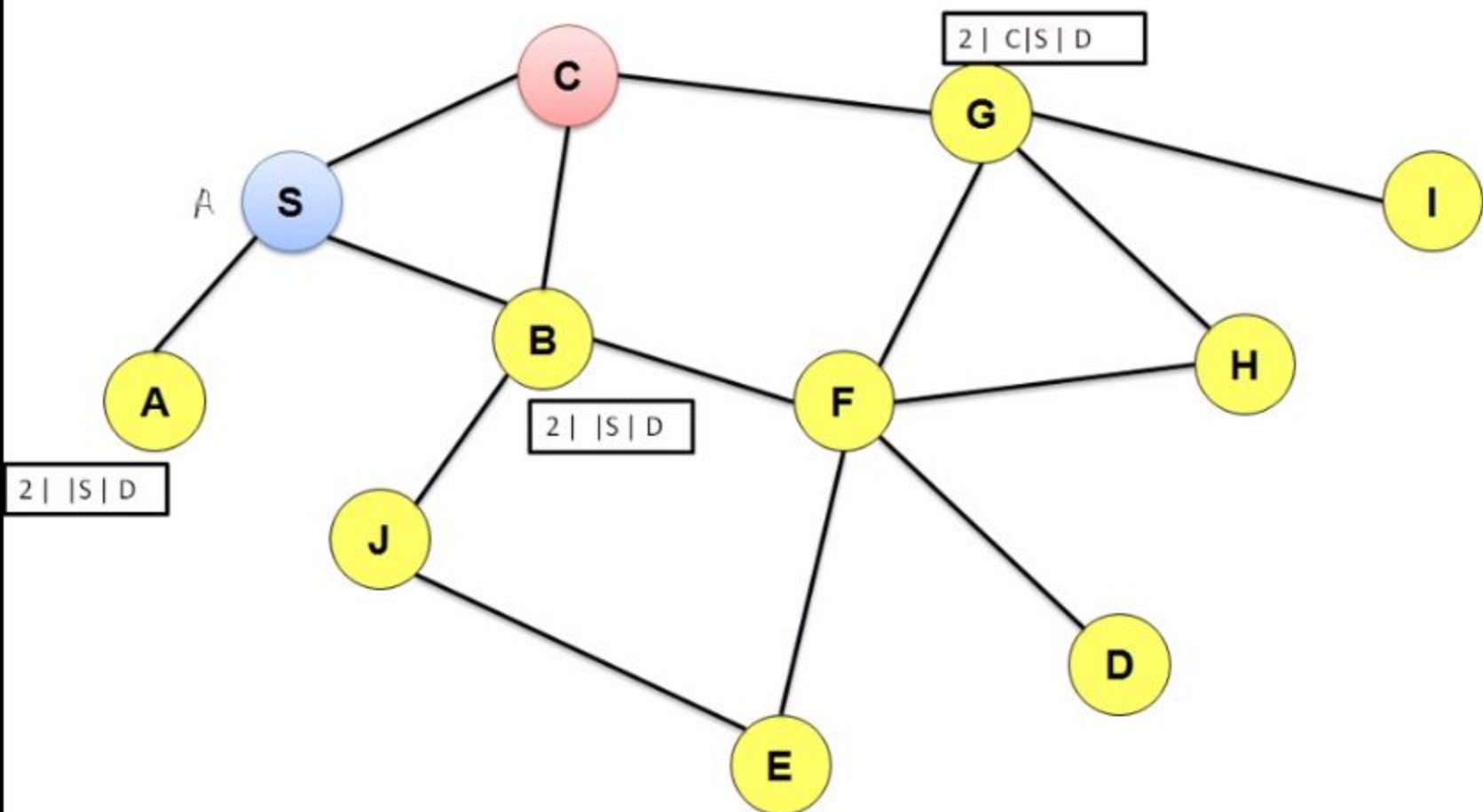


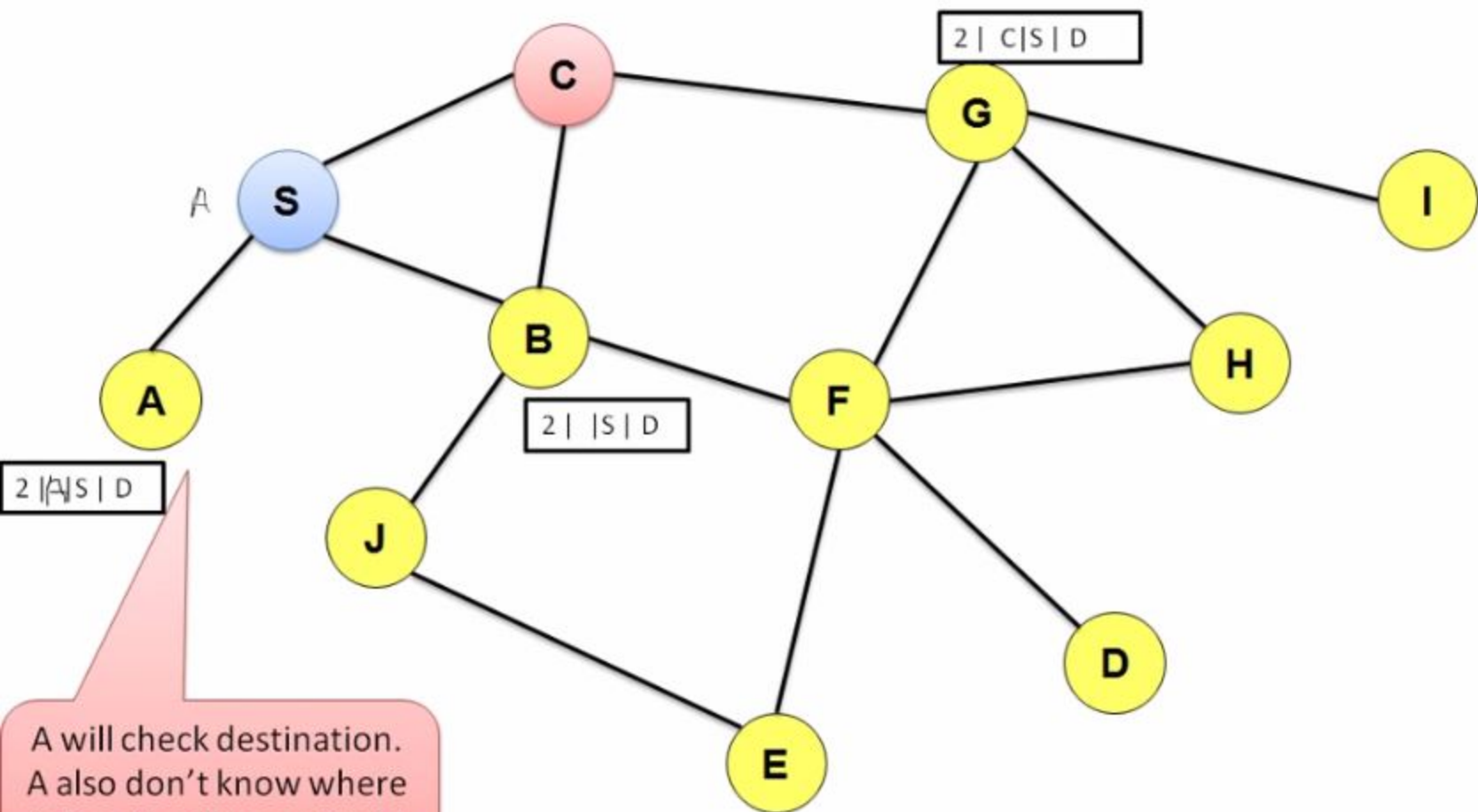
Objective: S wants to send data to node D





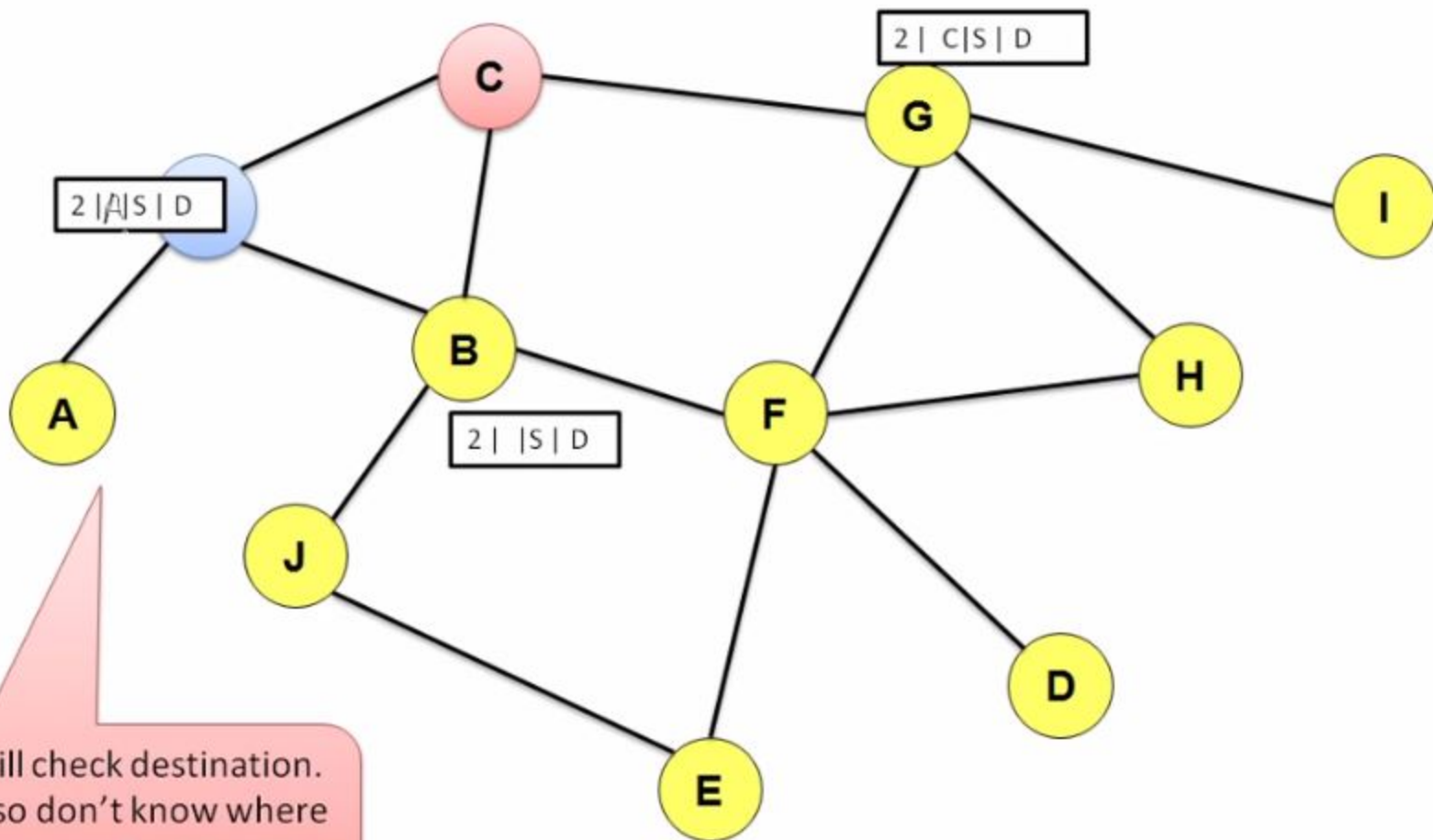






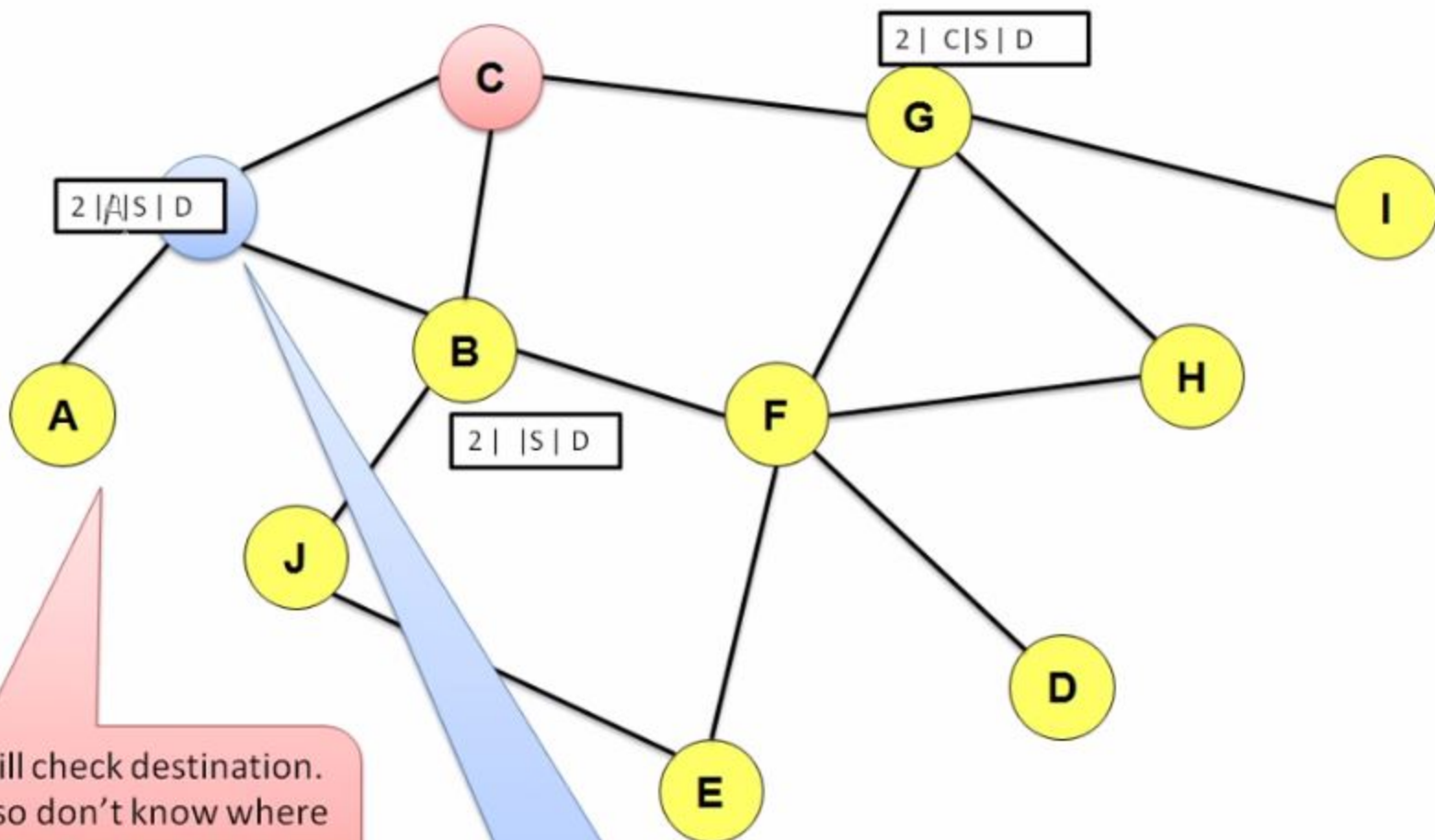
A will check destination.
A also don't know where
is D so it will Insert it's id
in packet and broadcast.

A



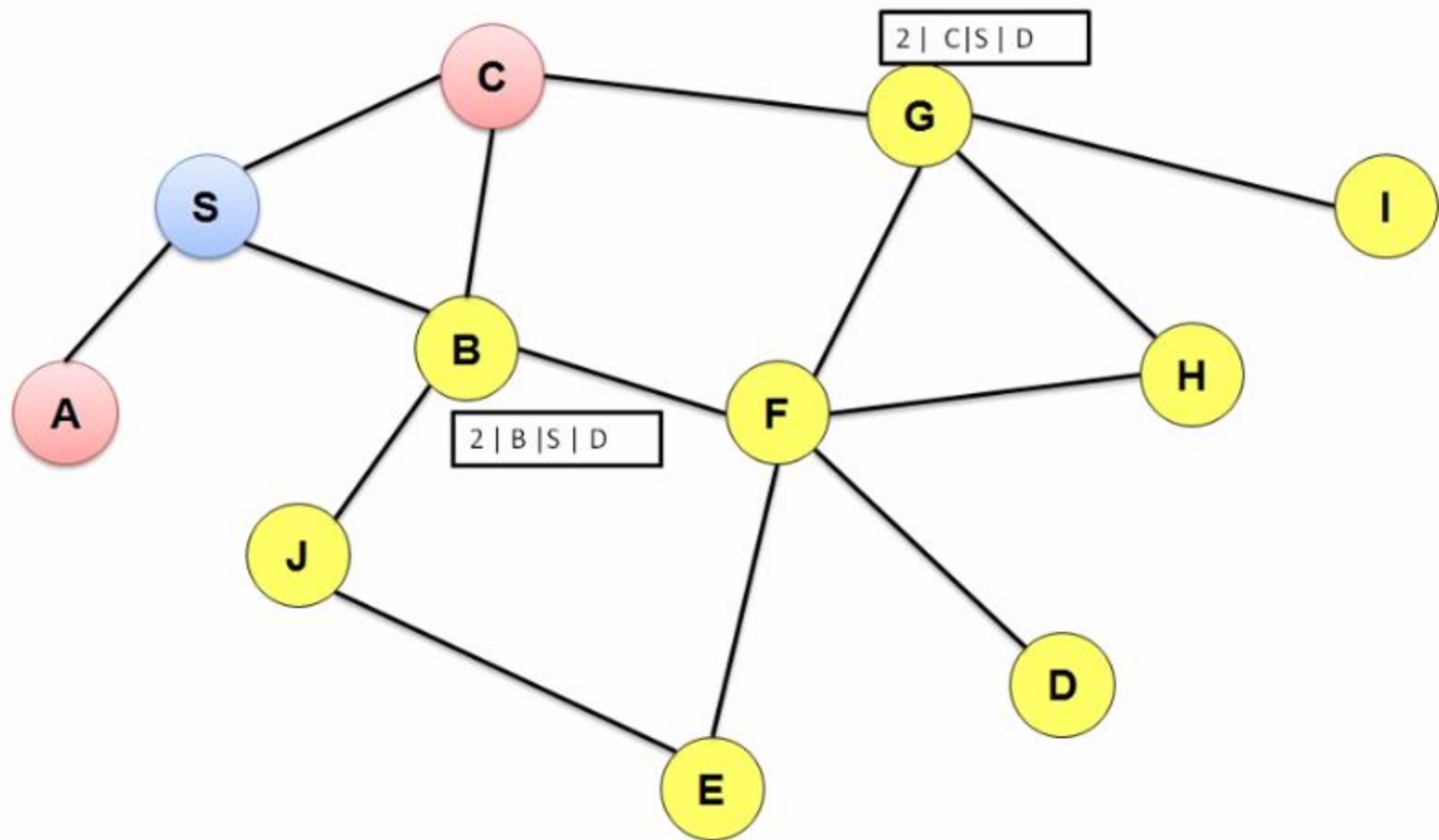
A will check destination.
A also don't know where
is D so it will Insert it's id
in packet and broadcast.

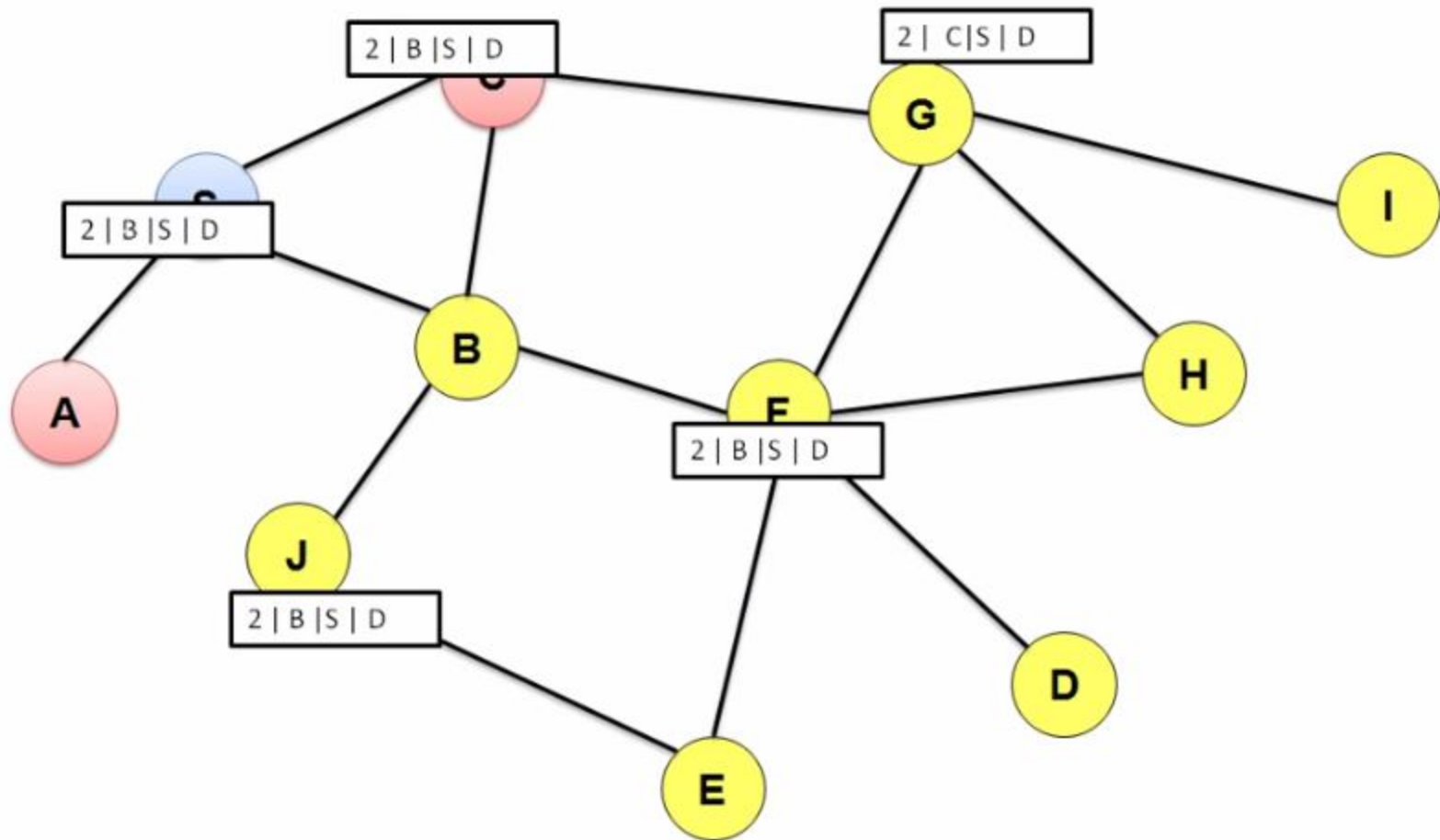
A

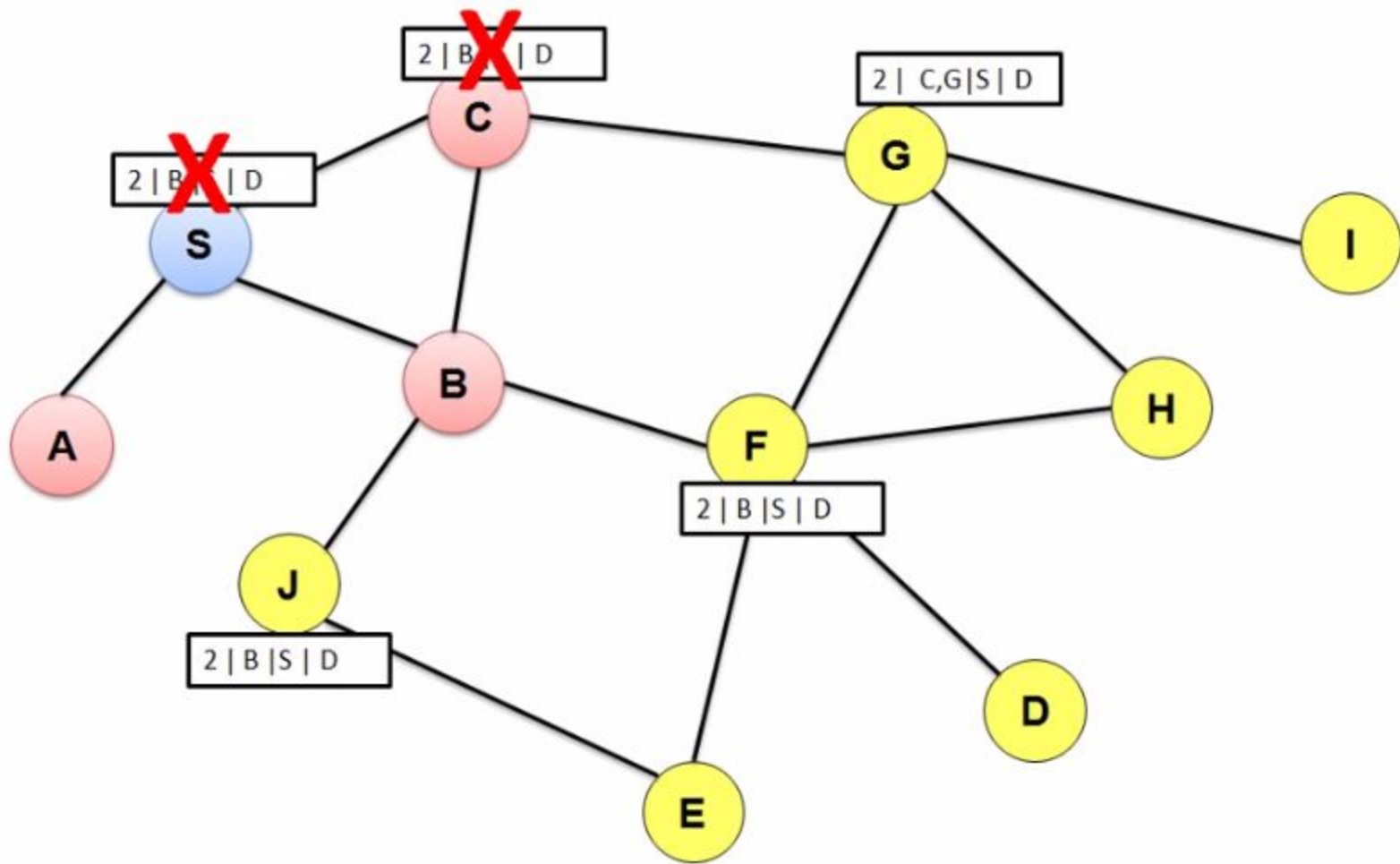


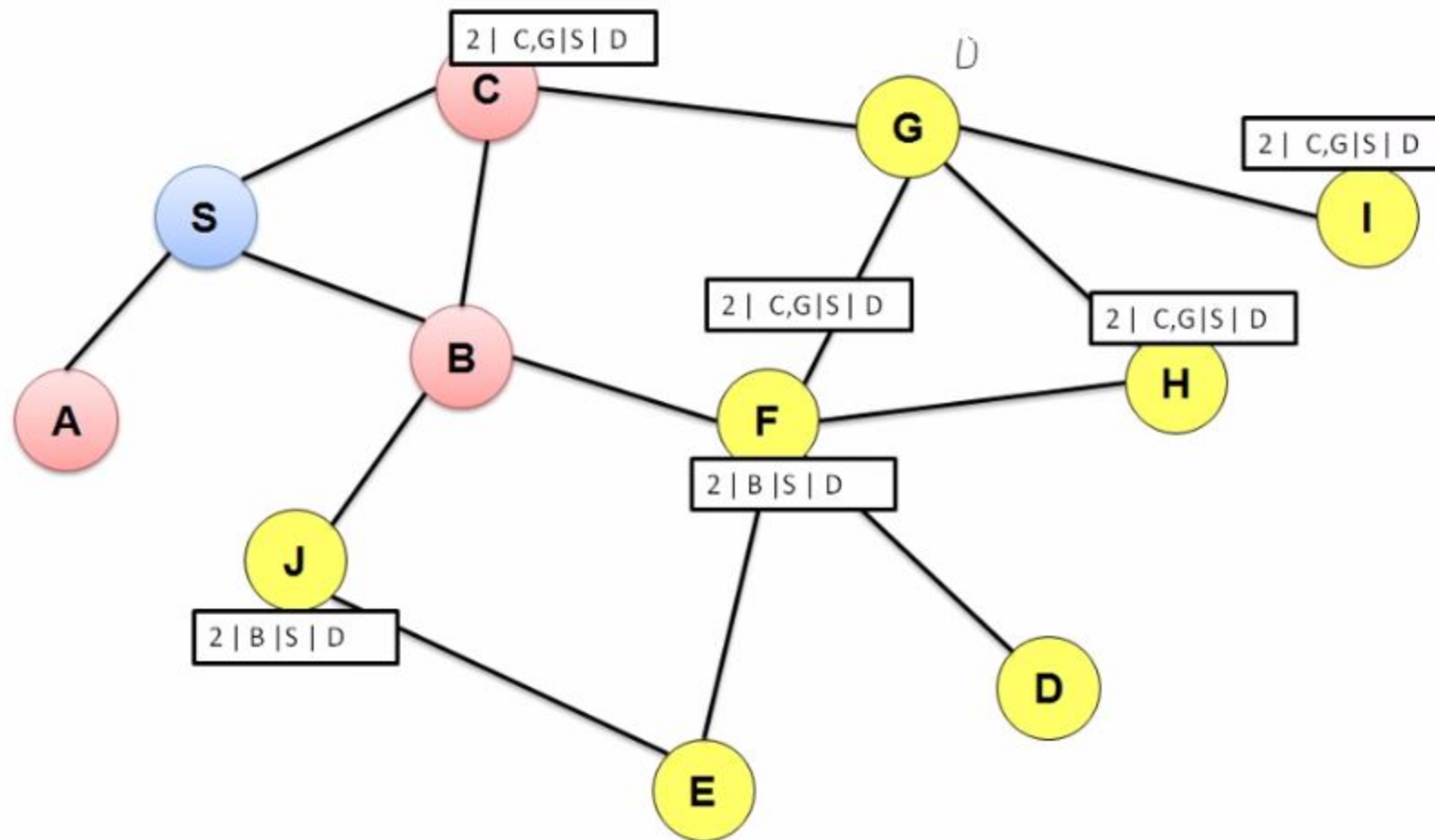
A will check destination.
A also don't know where
is D so it will Insert it's id
in packet and broadcast.

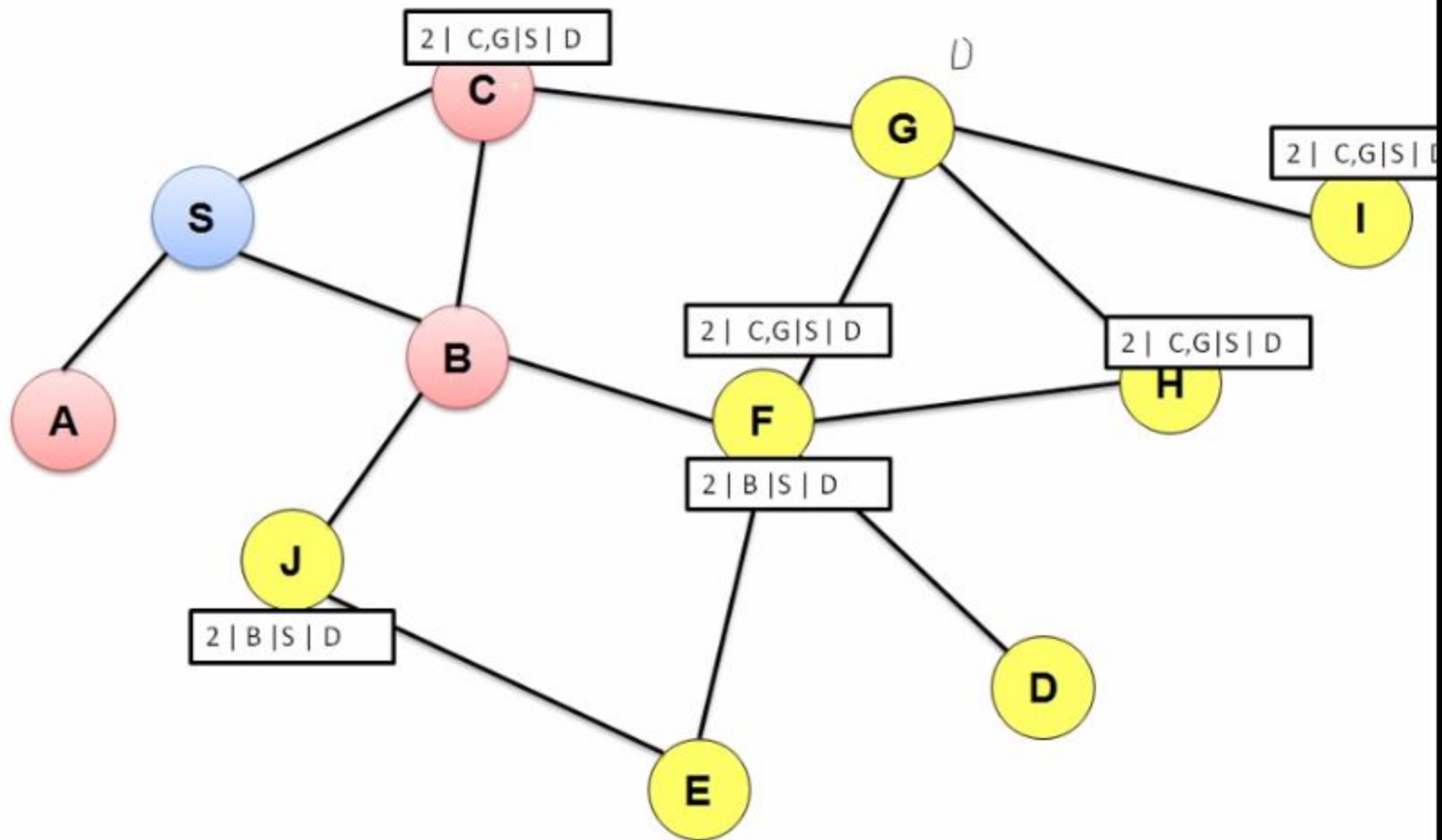
This packet is already
broadcasted by me.
No need to broadcast
again. Discard.





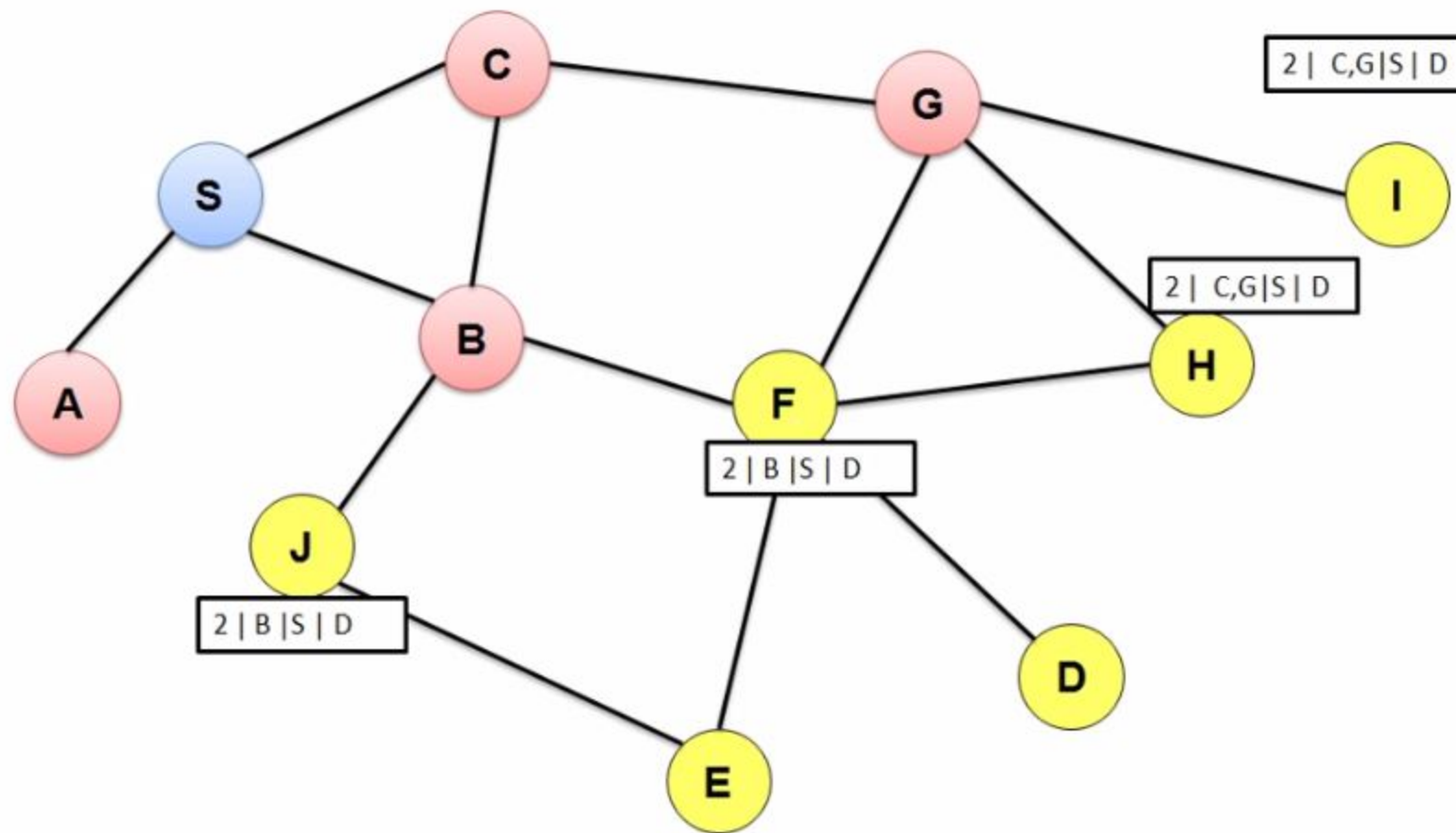






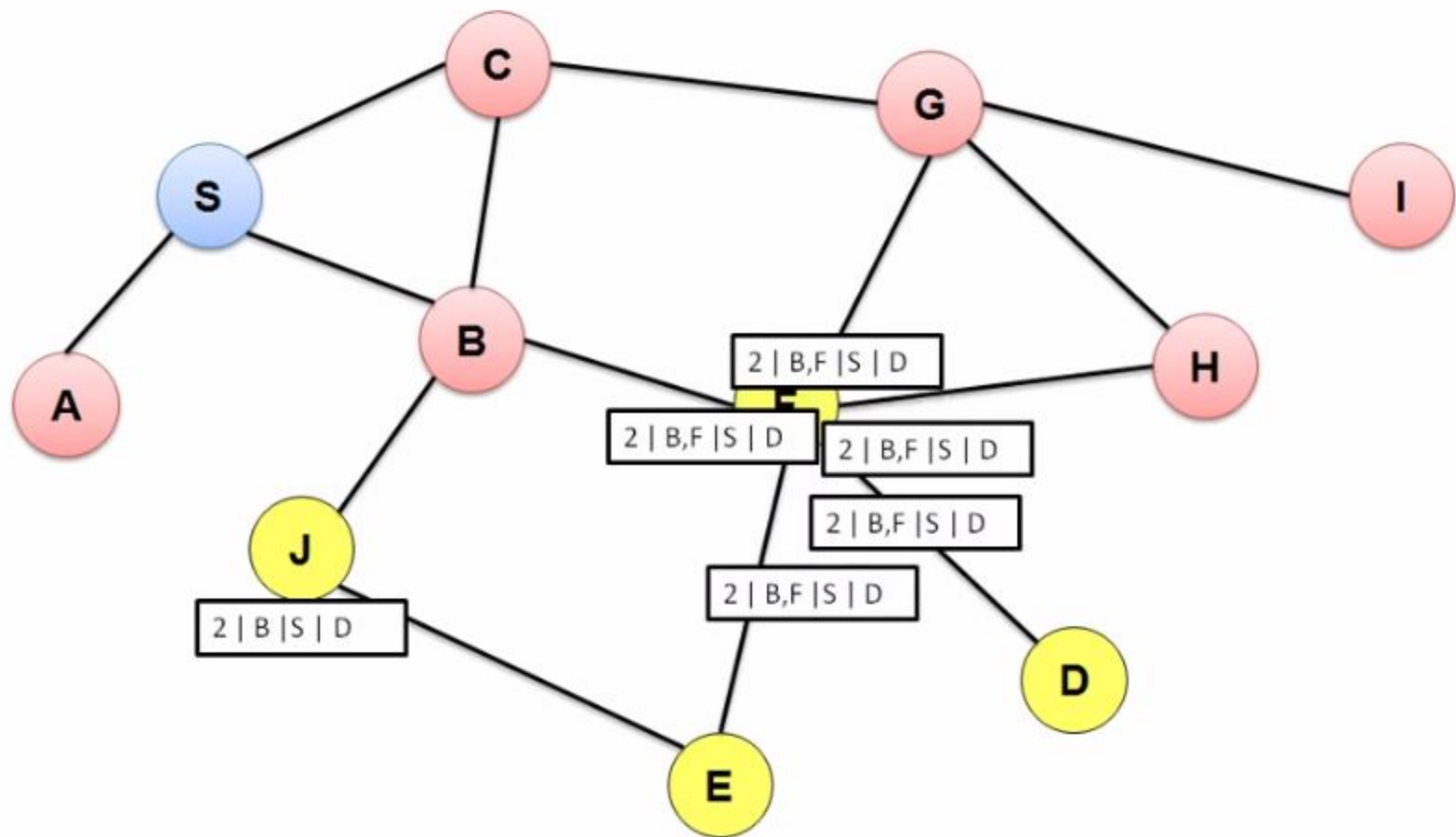
C will Discard packet because it has already broadcasted that packet.

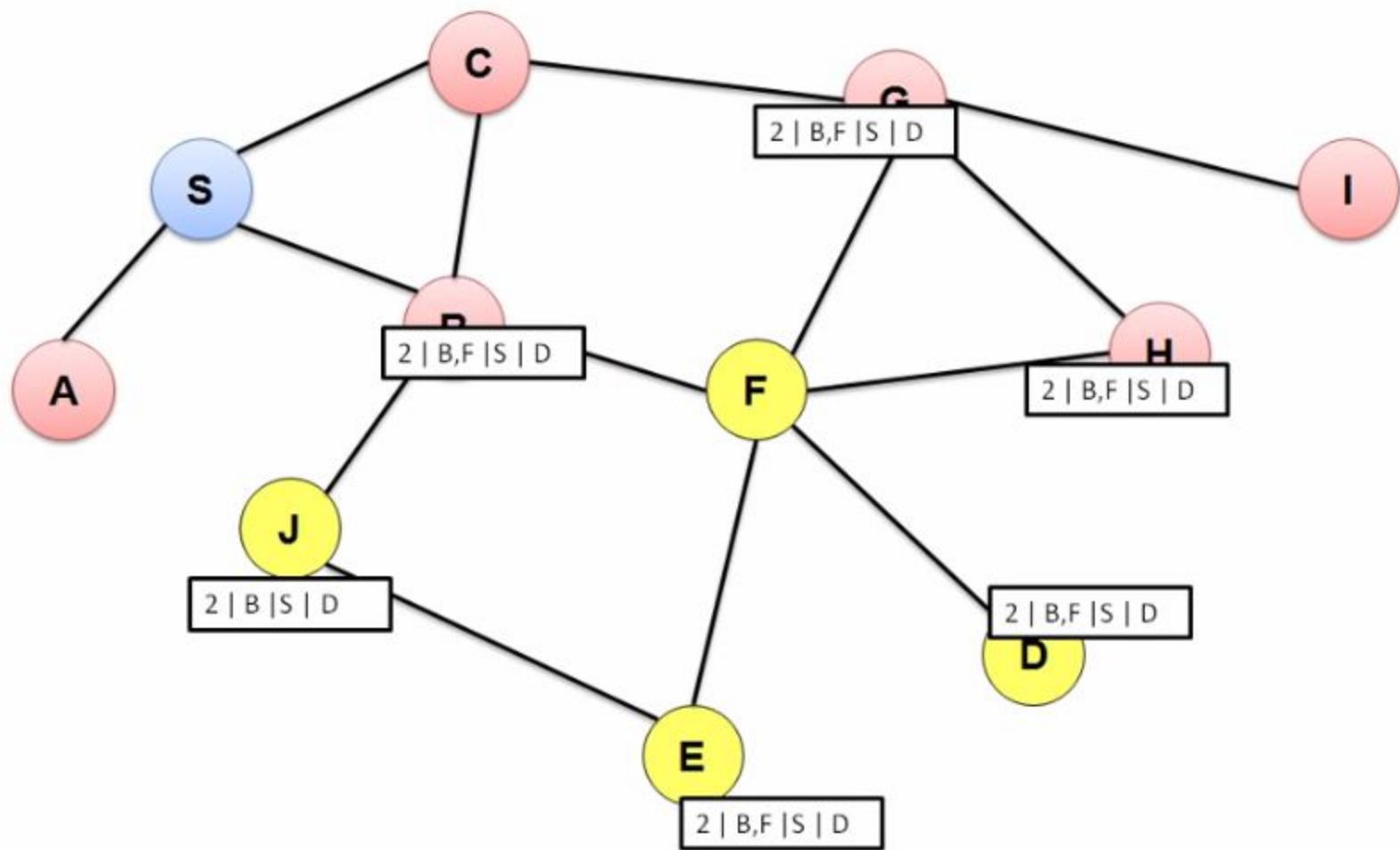
F will discard because already received that packet.

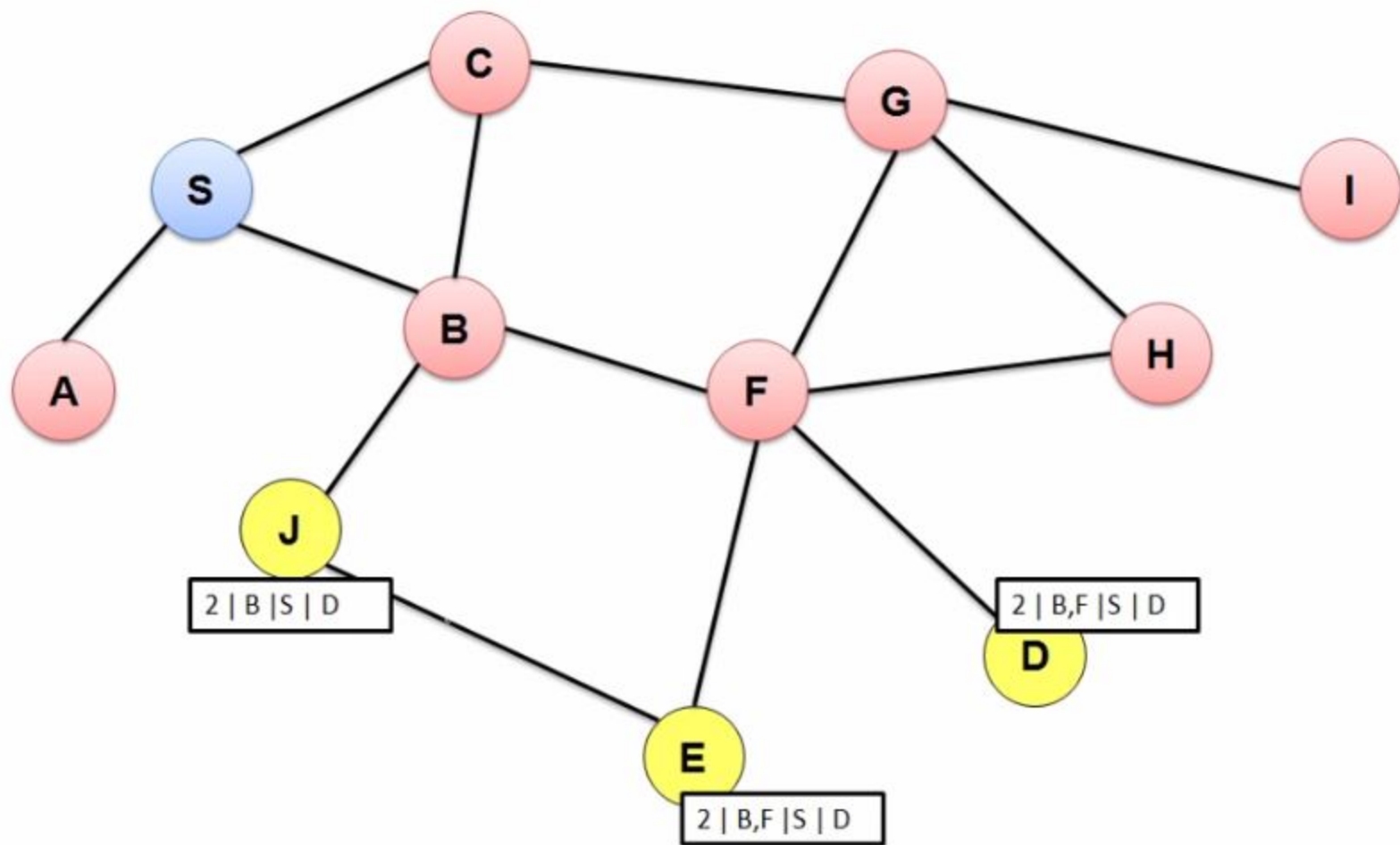


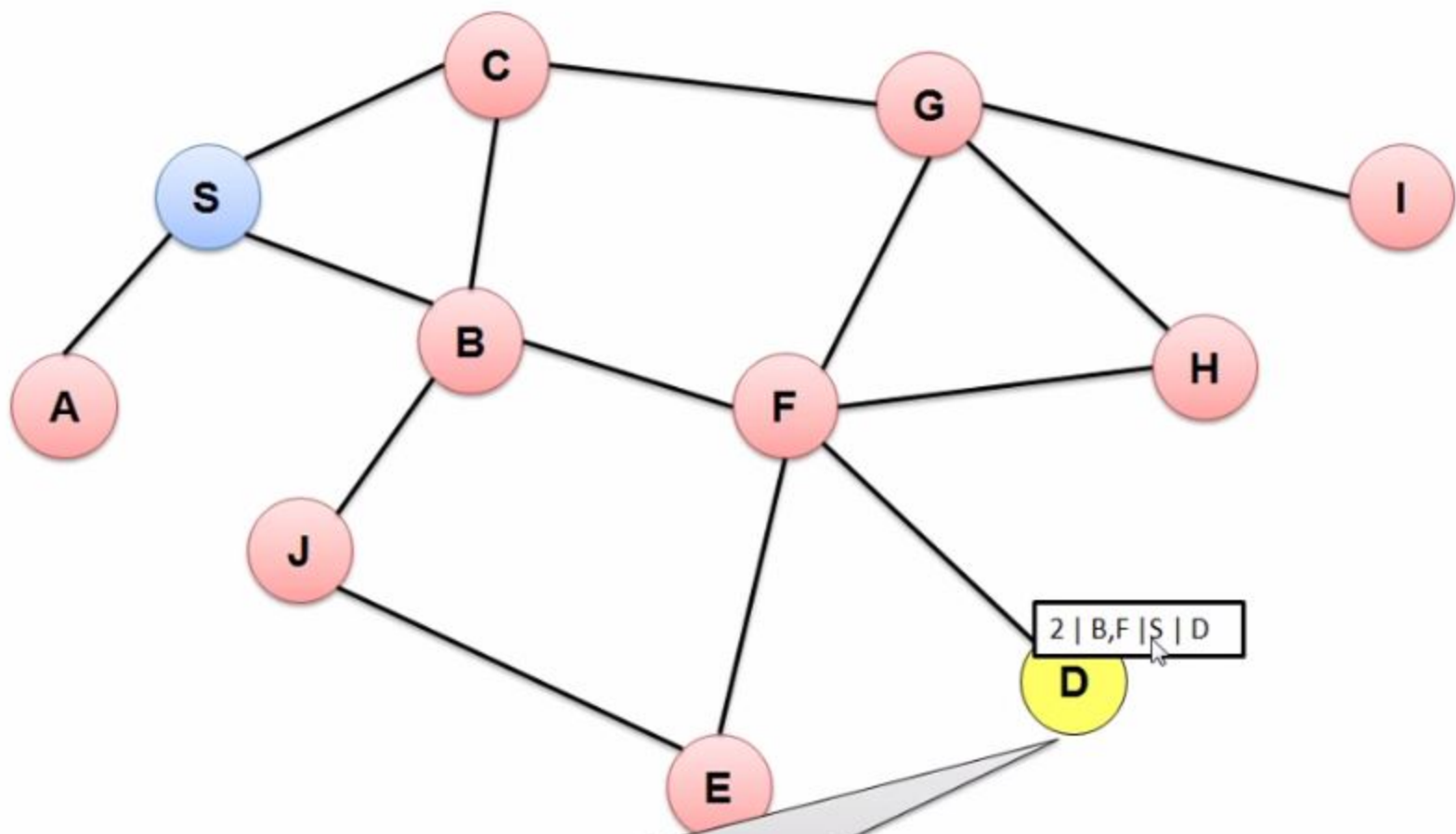
I have only node G. I will broadcast packet and G drop that packet.

H have two neighbor G and F. Both node will drop packet broadcasted by H.

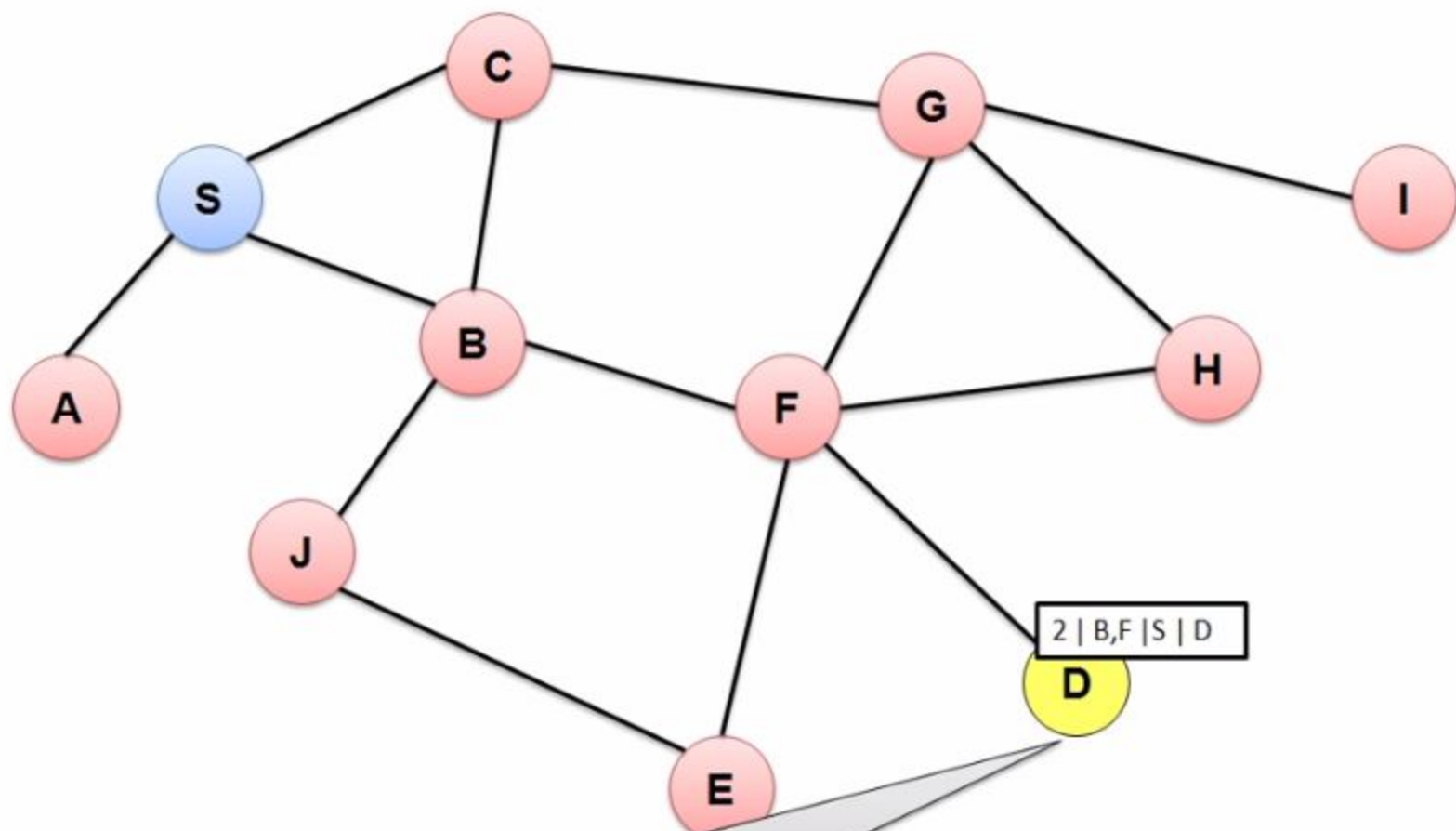






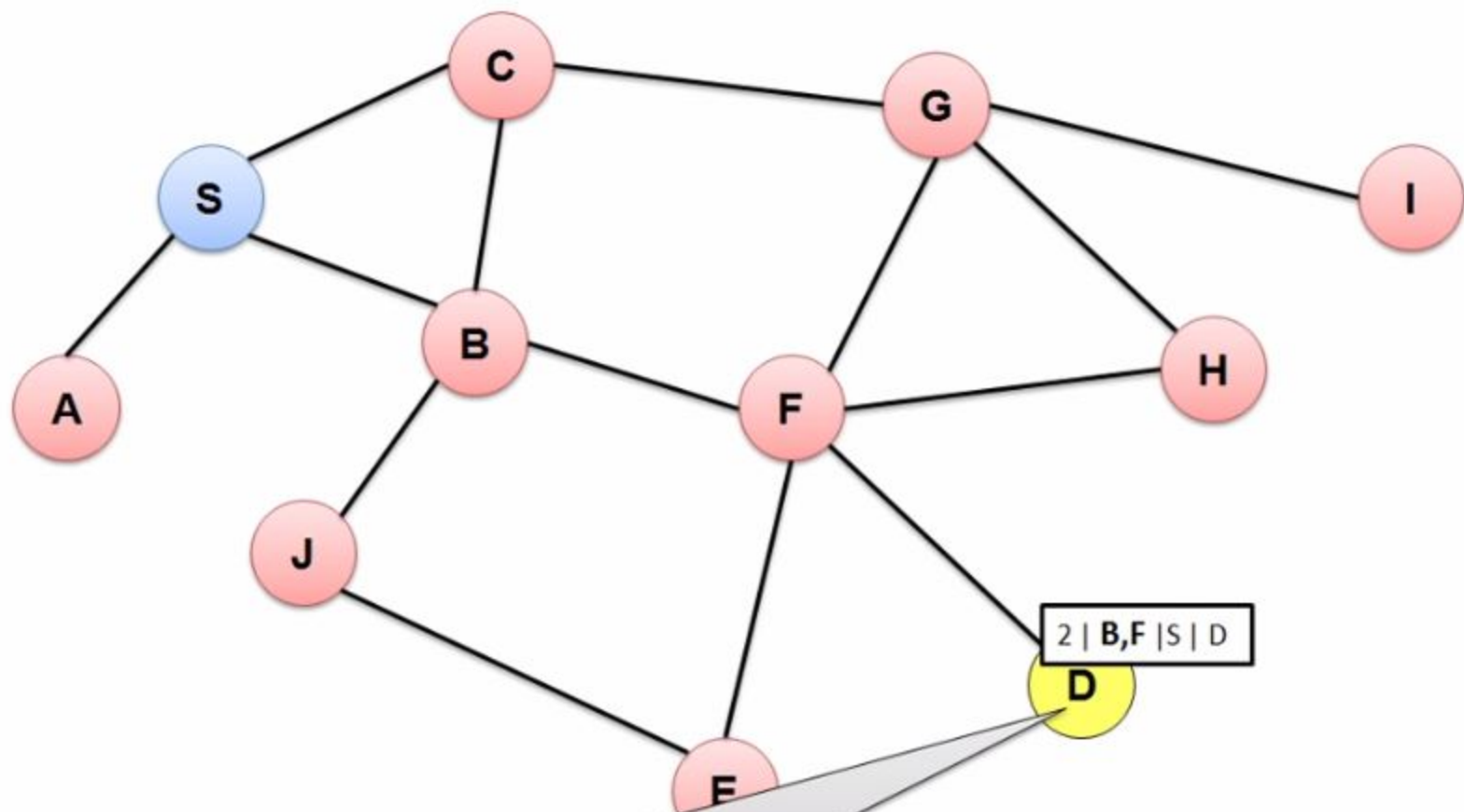


D will check packet and find it's own address in destination. D would know that Node S wants a route to D.



D will check packet and find it's own address in destination. D would know that Node S wants a route to D.

How D would know path to Node S?

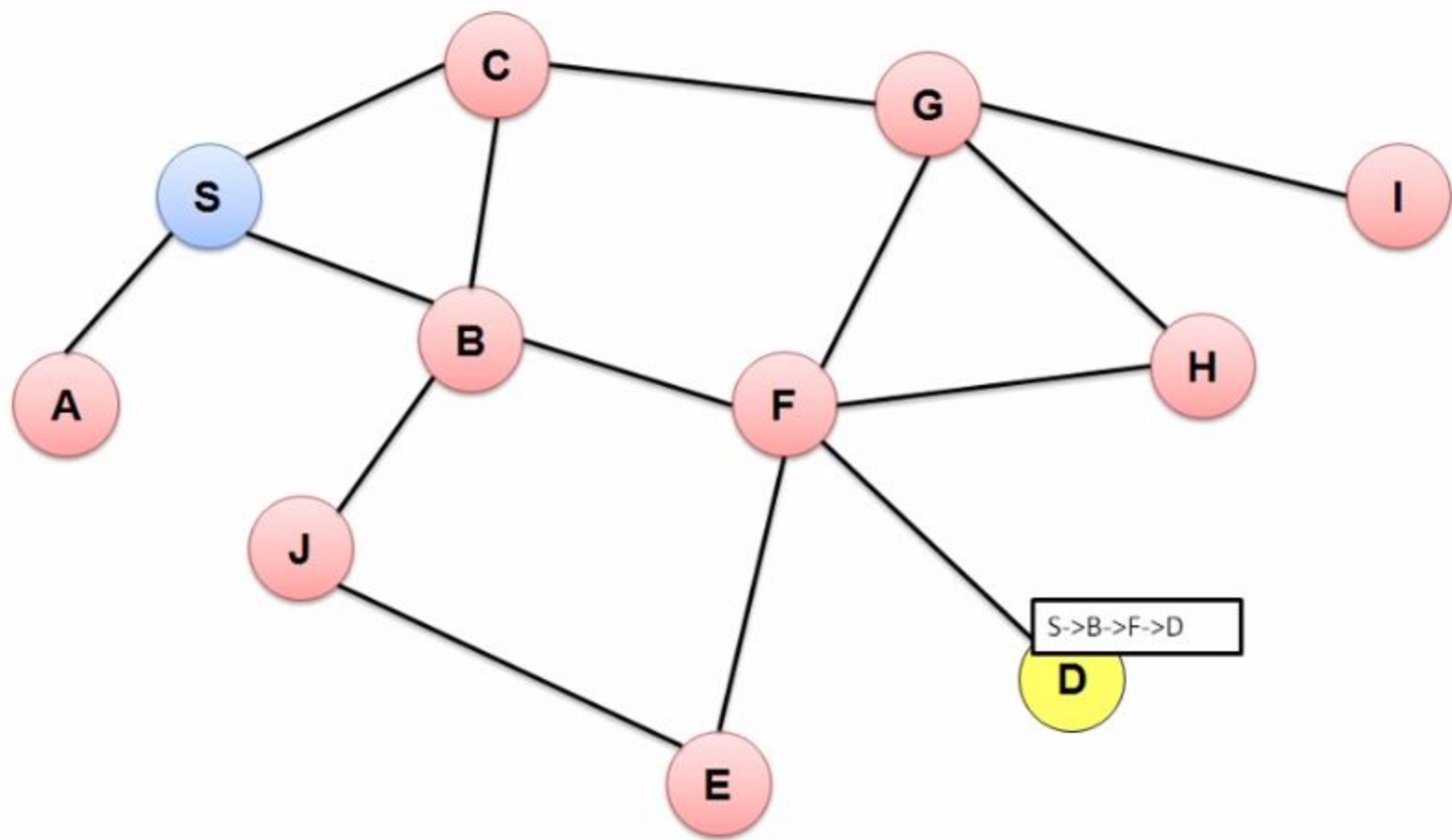


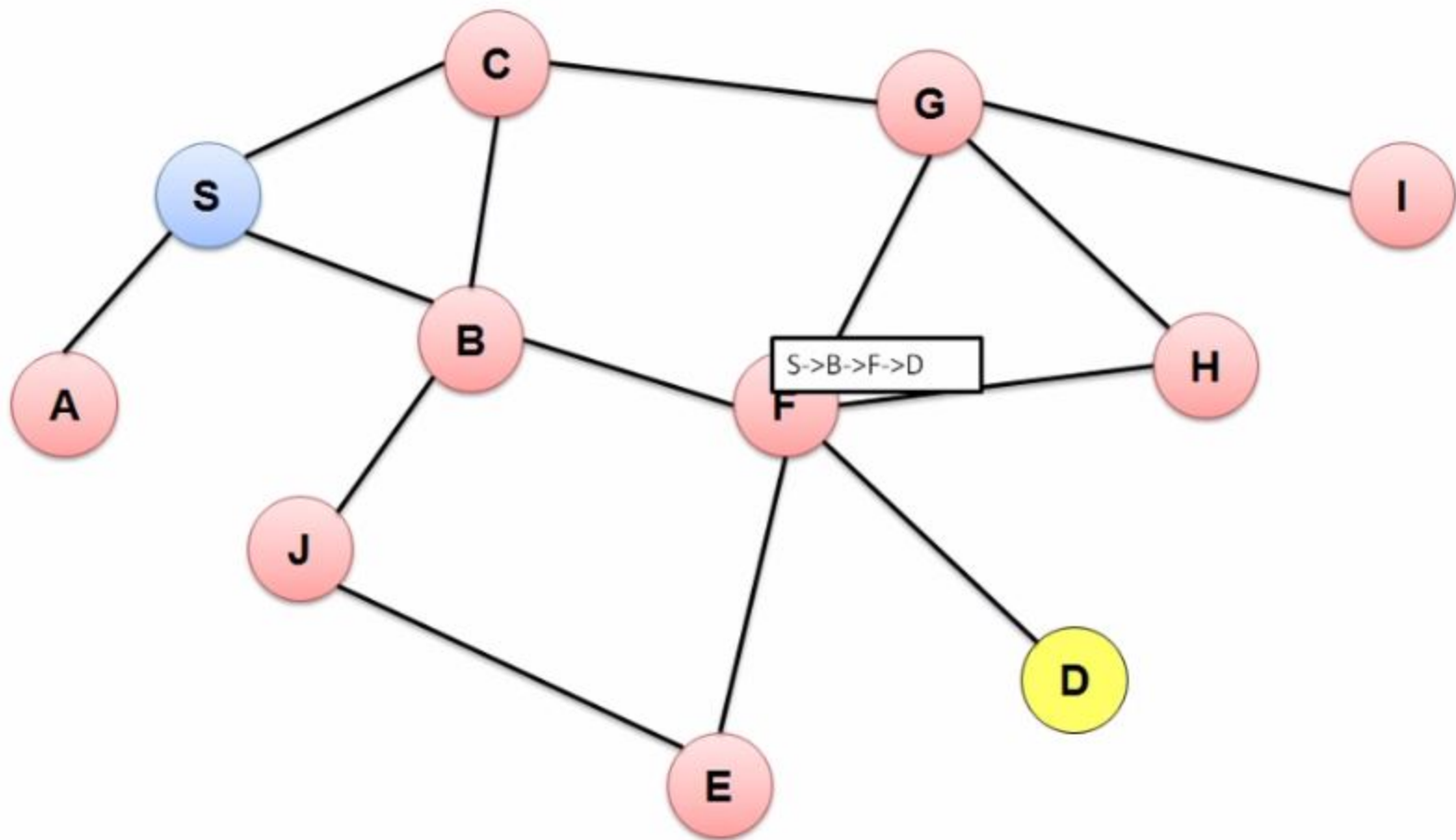
From packet D would know that packet is coming from
S -> B -> F -> D
So D would follow same route and reply to S about route
D -> F -> B -> S

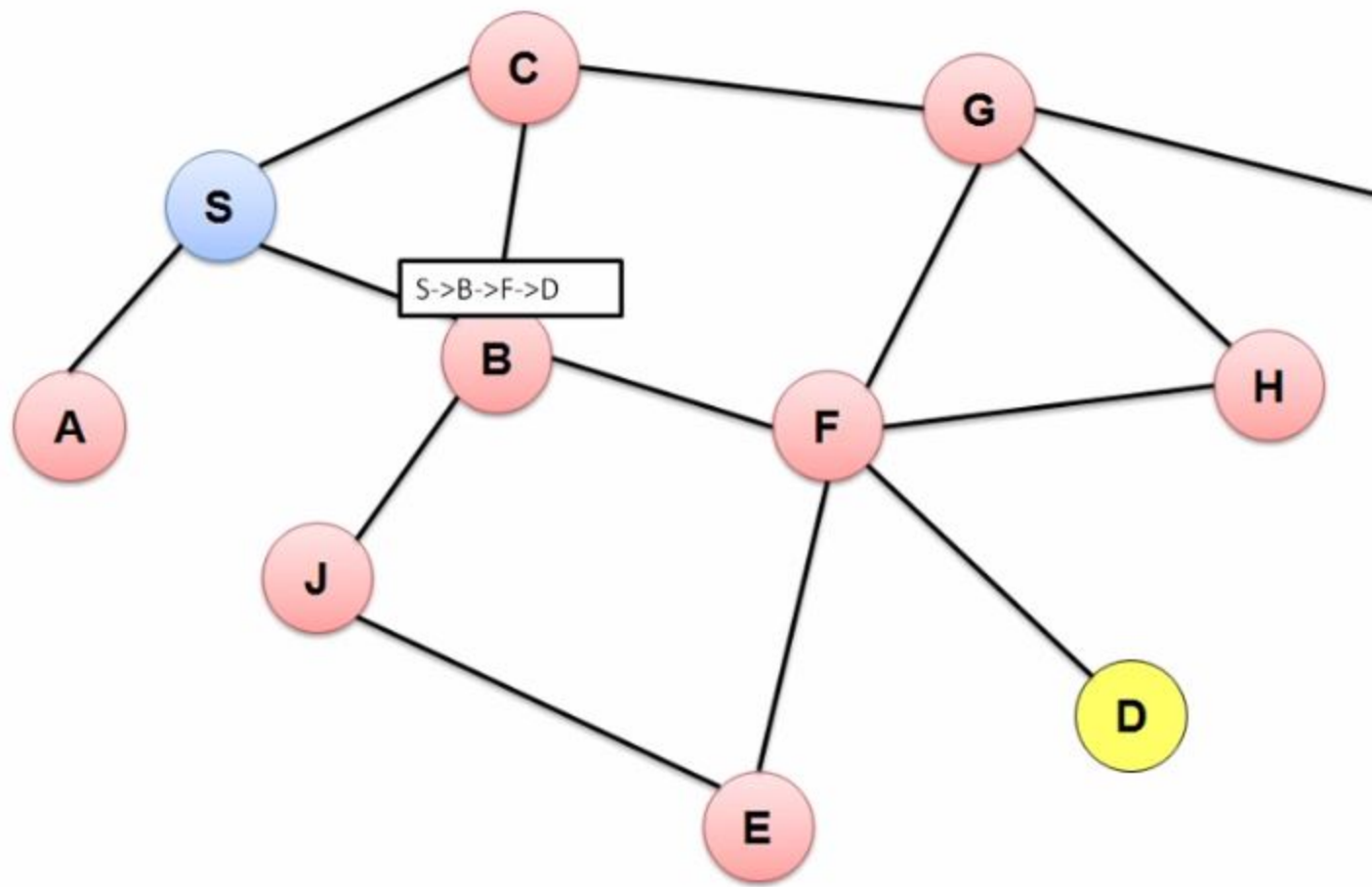
Phase II

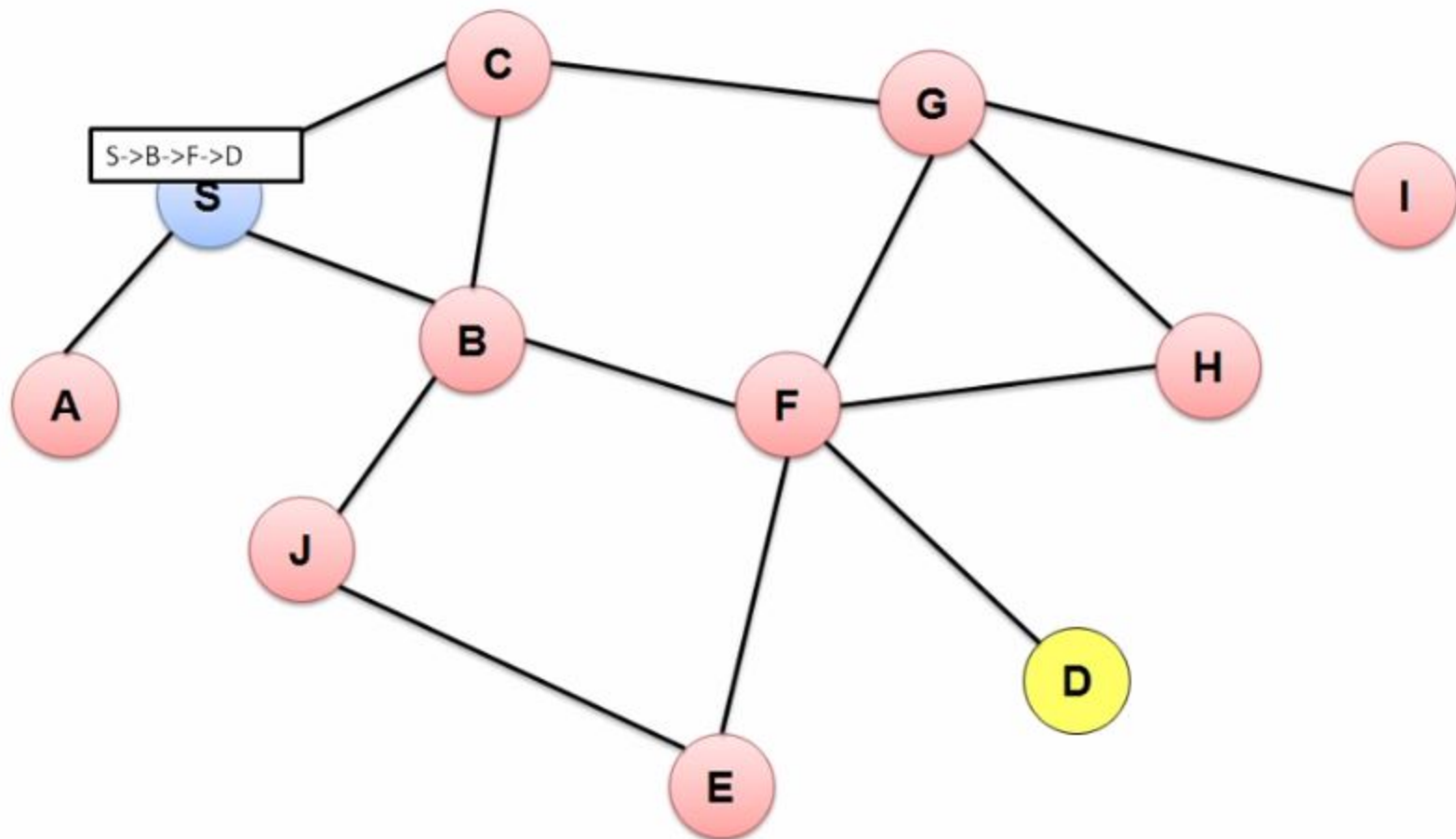
RREP

Route **RE**ply packet contain
Route record.

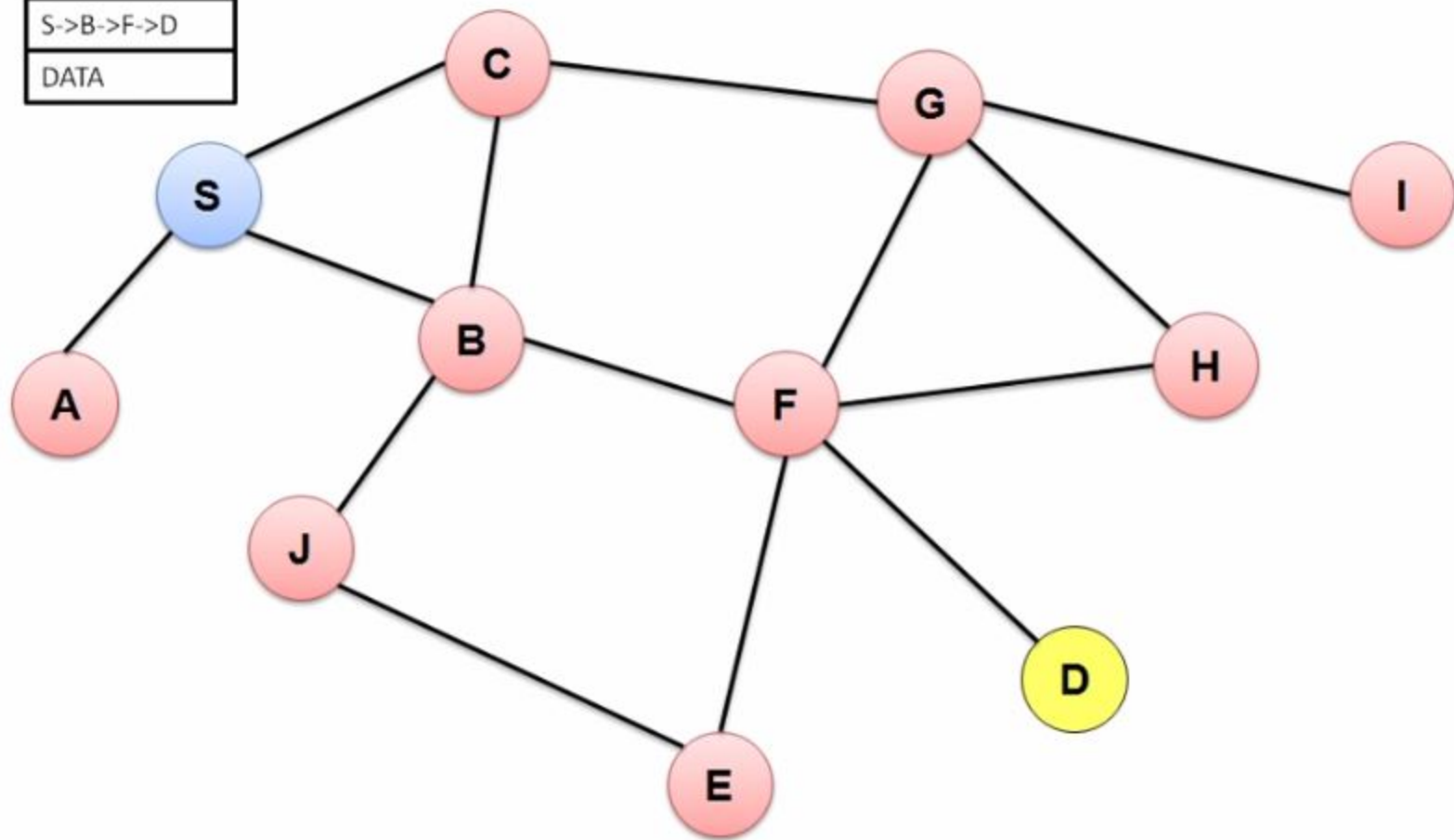


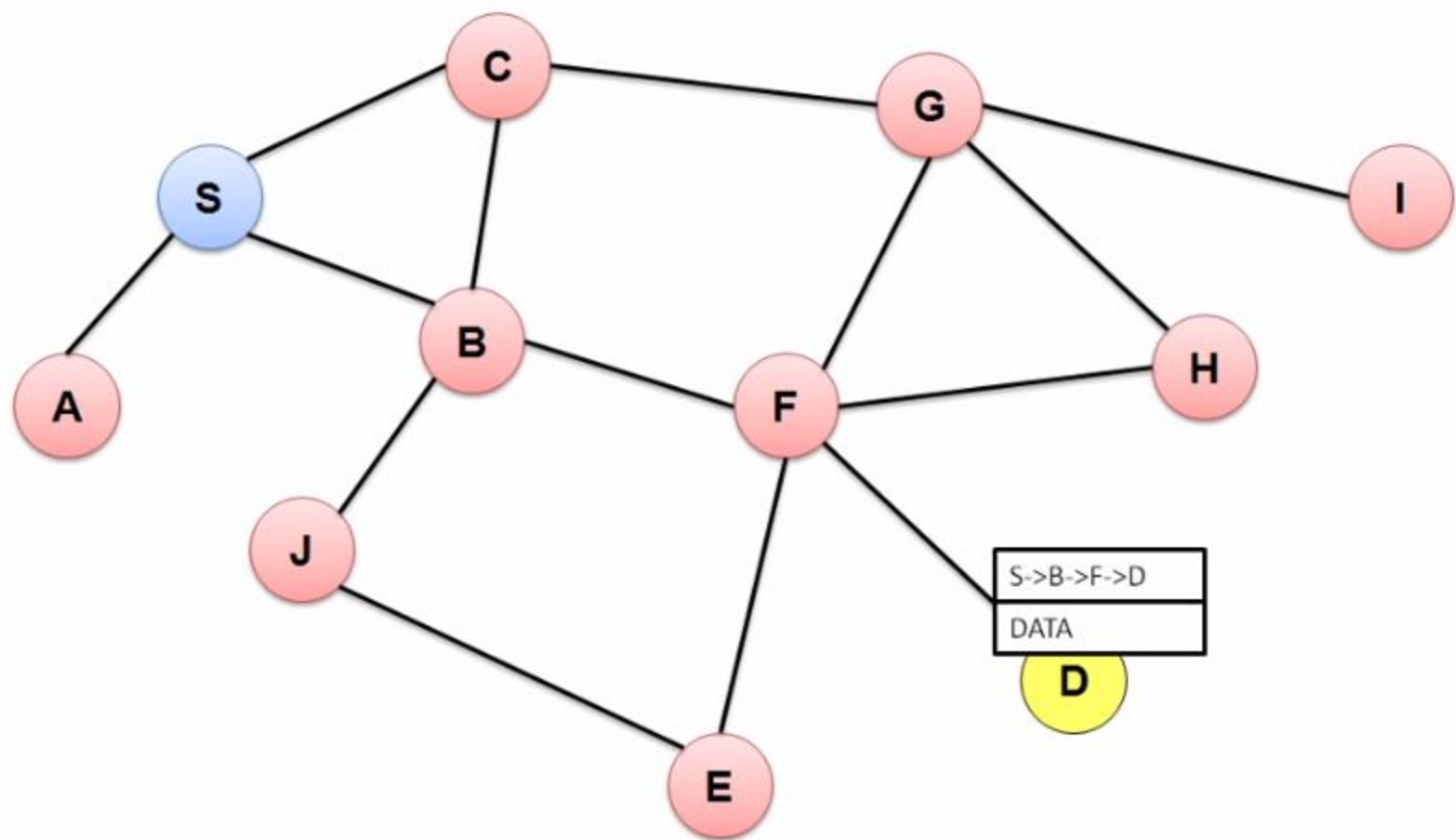






S->B->F->D
DATA





Objective completed.
Data Delivered to node D.

What if after sending data to node D. After some time S want to send data again?

Again route discovery process ?

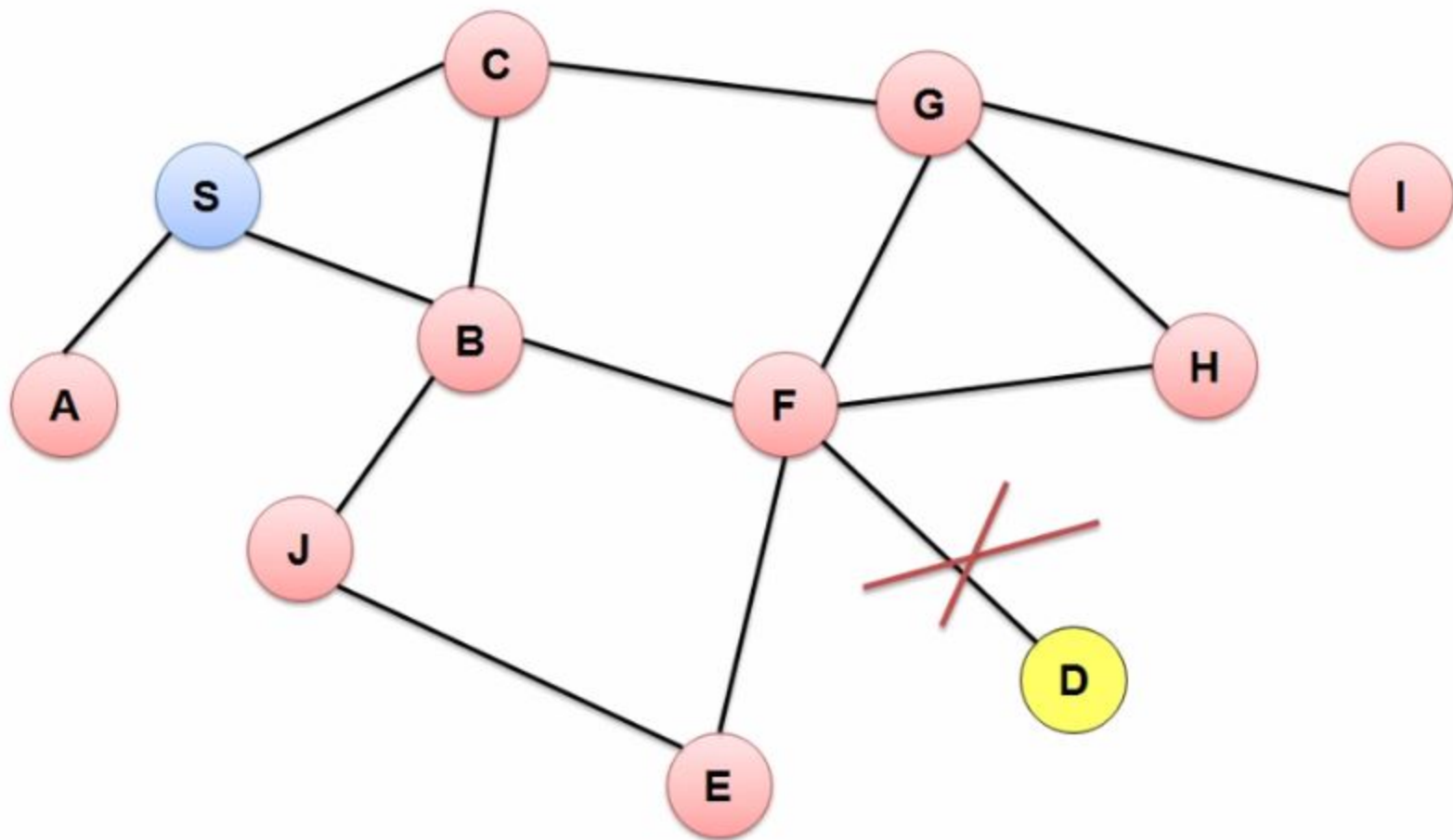
- Not efficient.

- Time consuming

Node S will cache (store) route to D.

- In future if S wants to send it will get route from cache.

What if after sending route to S node, connection between f and D got disconnected?



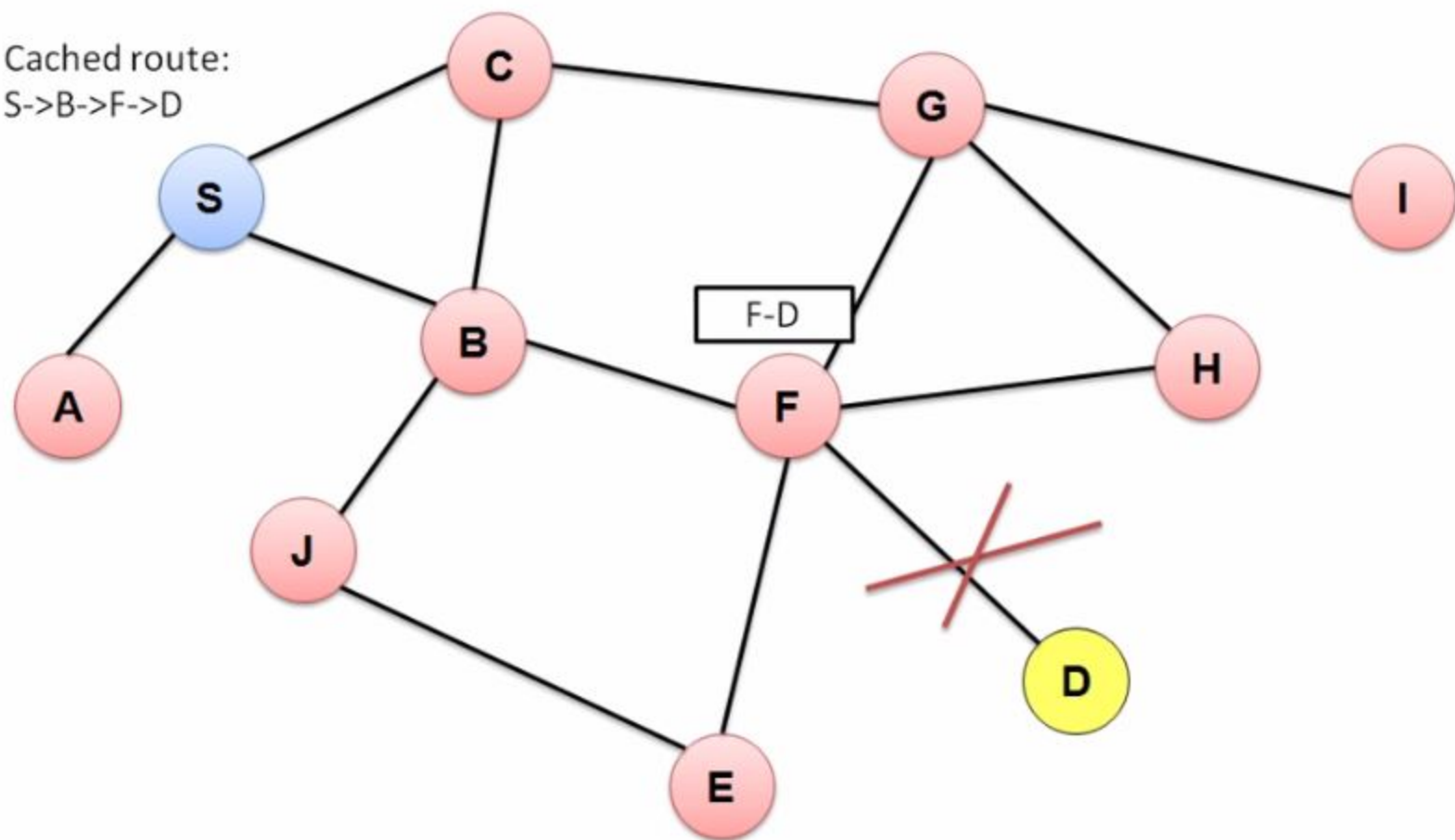
Route Maintenance

If any link broken information is broadcasted to make them update their cached route.

RERR Packet

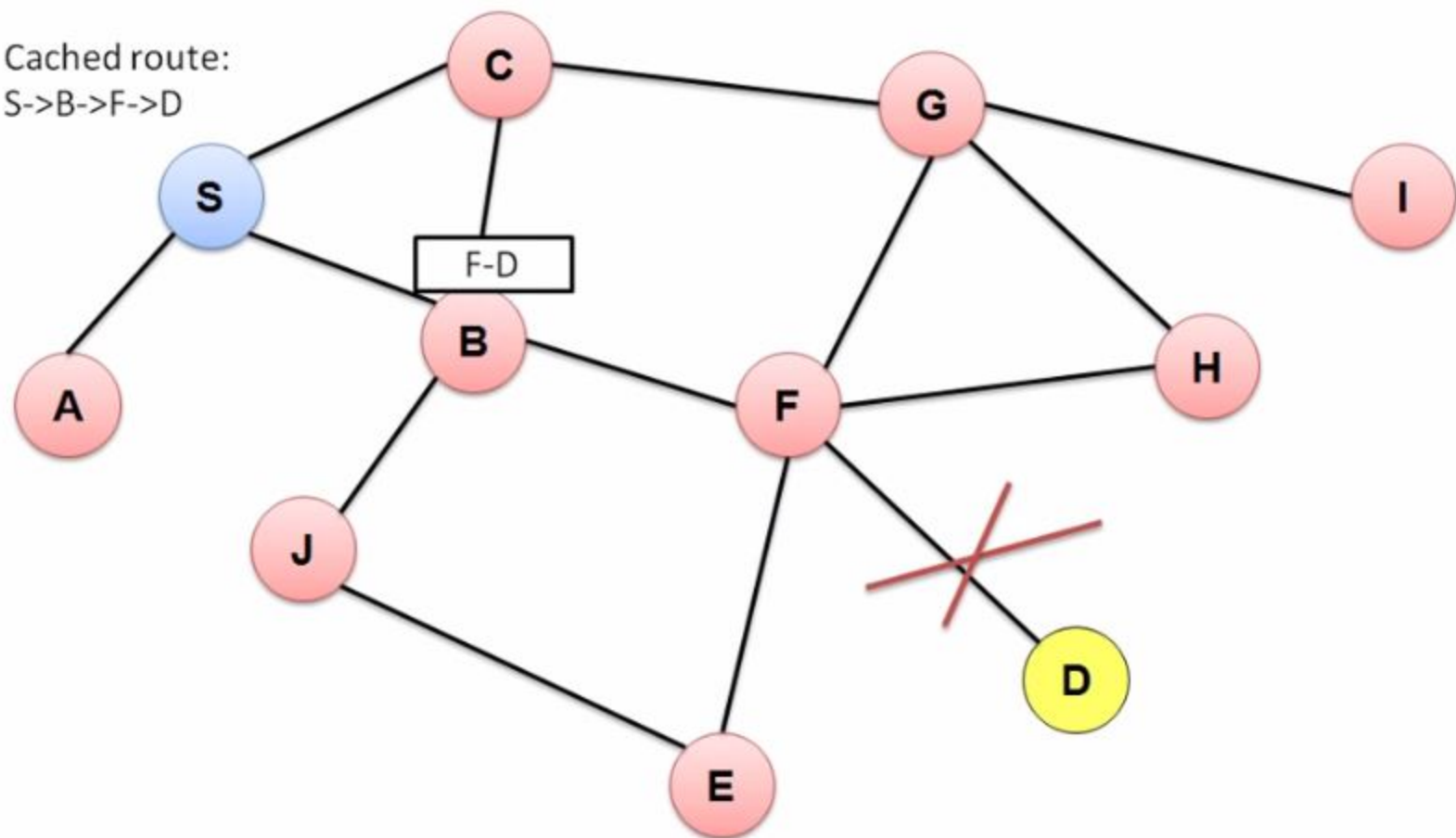
RERR Pakcet

Cached route:
S->B->F->D



RERR Pakcet

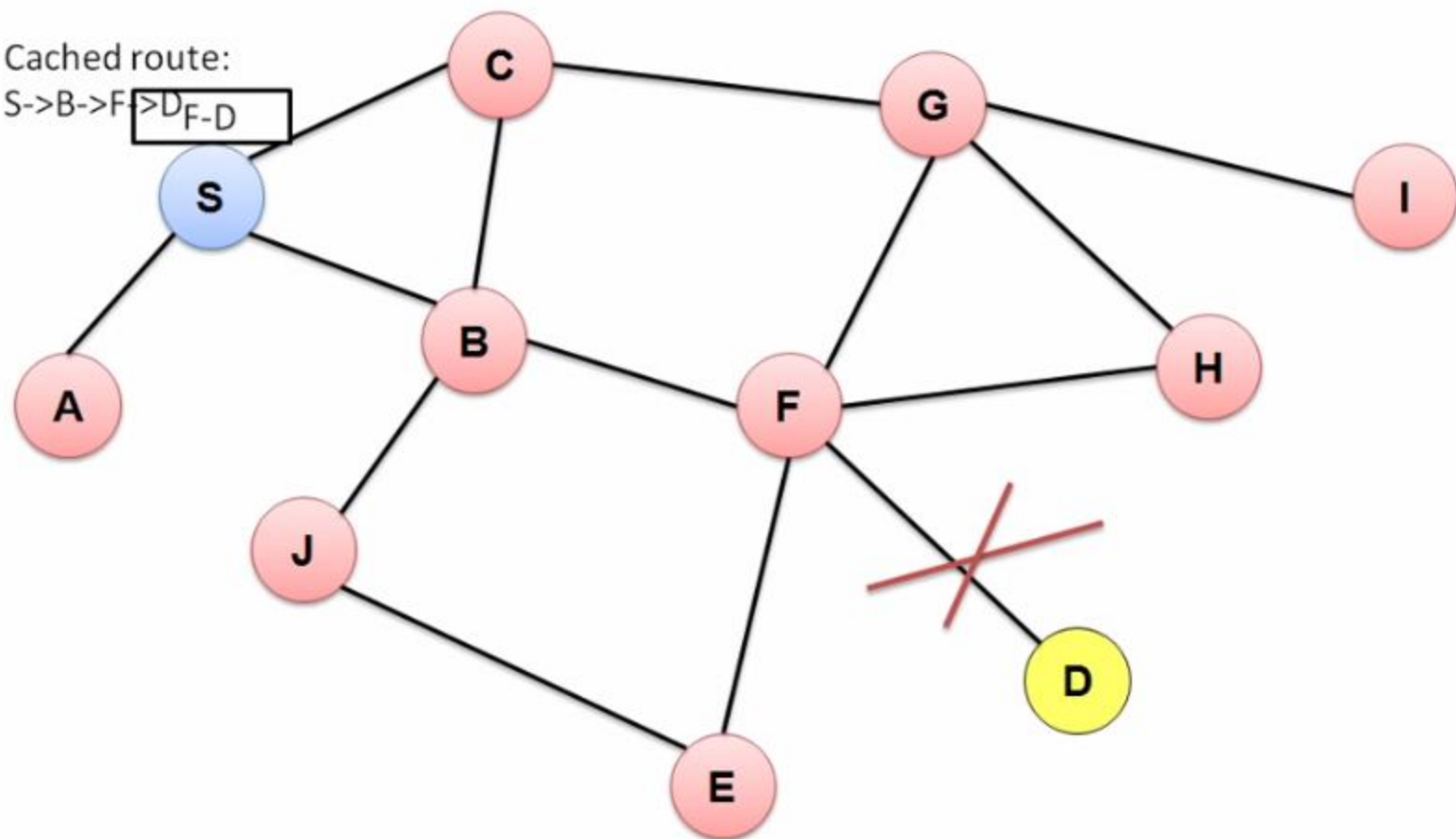
Cached route:
S->B->F->D



RERR Pakcet

Cached route:

S->B->F->~~D~~-D



RERR Packet

