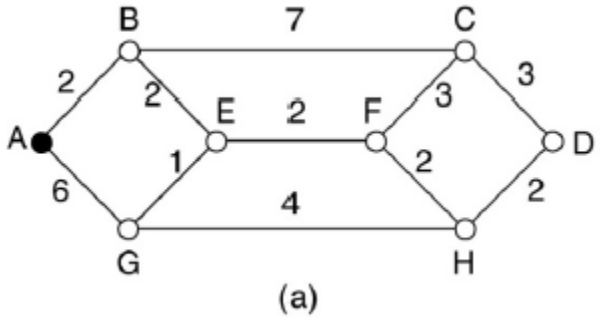
Consider the network below, but ignore the weights on the lines. Suppose that it uses flooding as the routing algorithm. If a packet sent by A to D has a maximum hop count of 3, list all of the routes it will take. Also tell how many hops worth of bandwidth it consumes.



(a)

1. **A → B → C → D**
2. A → B → C → F
3. A → B → E → F
4. A → B → E → G
5. **A → G → H → D**
6. A → G → H → F
7. A → G → E → F
8. A → G → E → B

3 hops for each path. There are 8 possible (3 hop) paths. Total amount of hops worth of bandwidth is the sum of all hops for all possible routes. 8•3=**24 hops worth of bandwidth**