Communication Networks

Spring 2021

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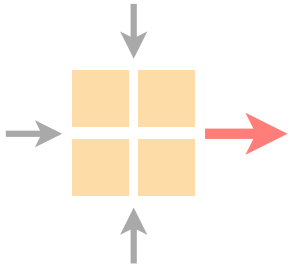
https://comm-net.ethz.ch/

ETH Zürich

May 06 2021

Communication Networks

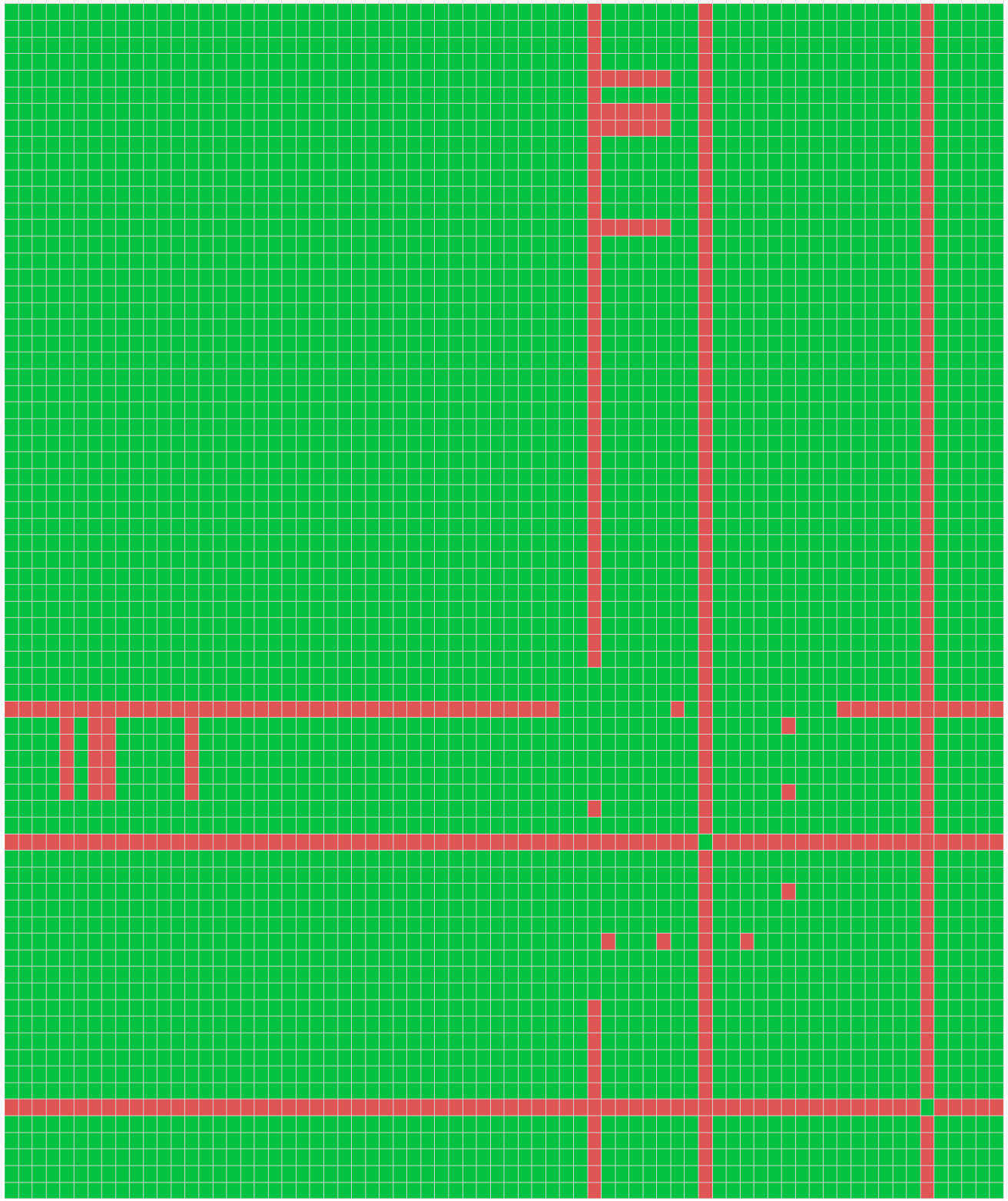
Exercise 9



Routing project submission instructions

Overview current assignment

Solutions will be published next week



Matrix from yesterday

Looks quite good!

Can we reach 100% ?

Project deadline is tomorrow at midnight

Make sure that you push your final config, report
and declaration of originality to your GitLab repository

Late submissions are possible but will result in
partial credits as described here: https://comm-net.ethz.ch/

Let us know via Slack or email if there are any problems

Submission demo

Watch the live session or the recorded video!

The demo closely follows the instructions
from the wiki („1.1 General Instructions“)

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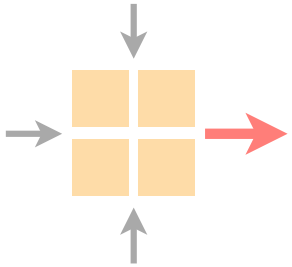

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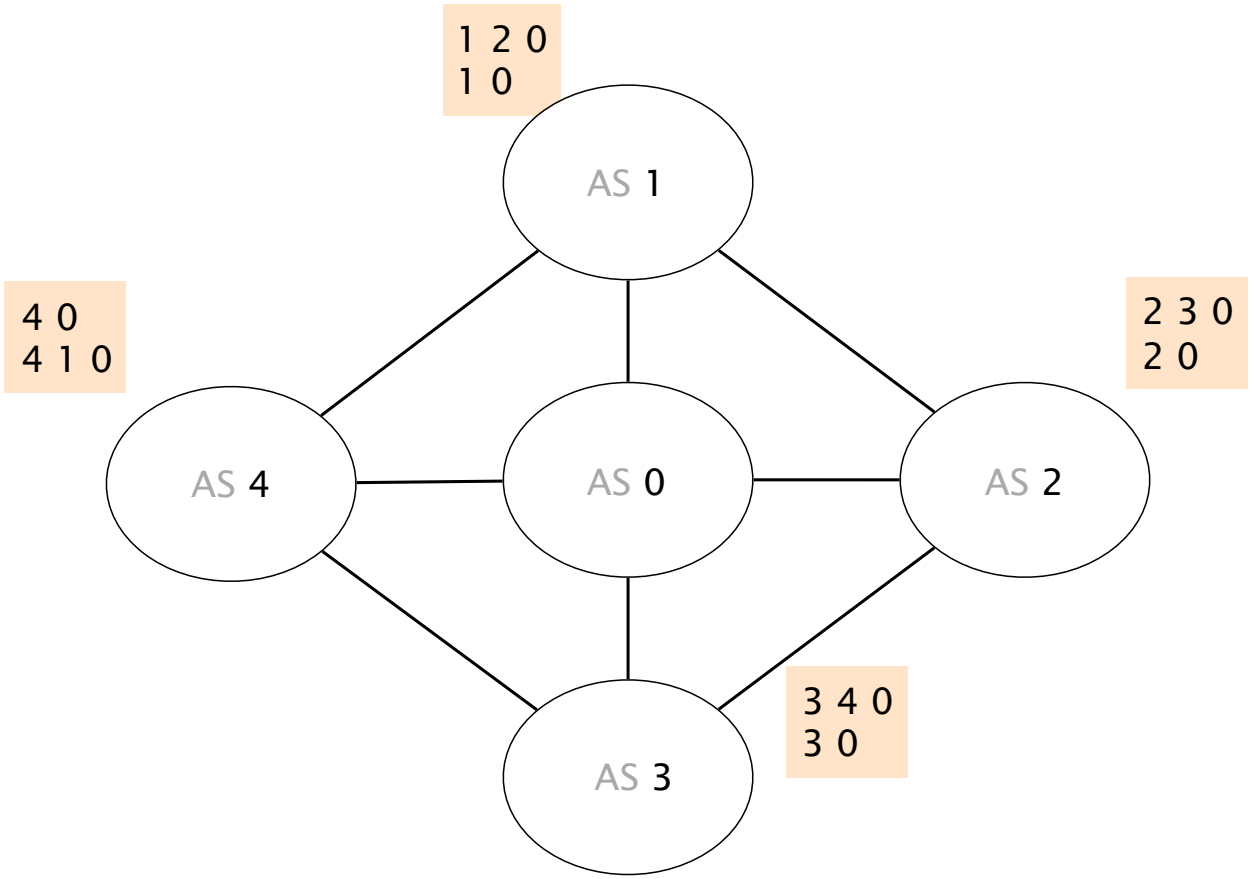
Task 1: Convergence



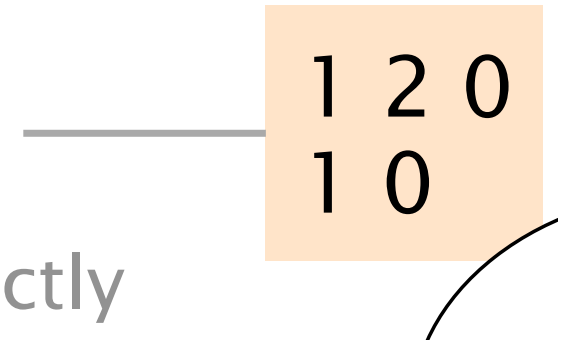
Does this network ever converge?

Task 1: Convergence

preference list

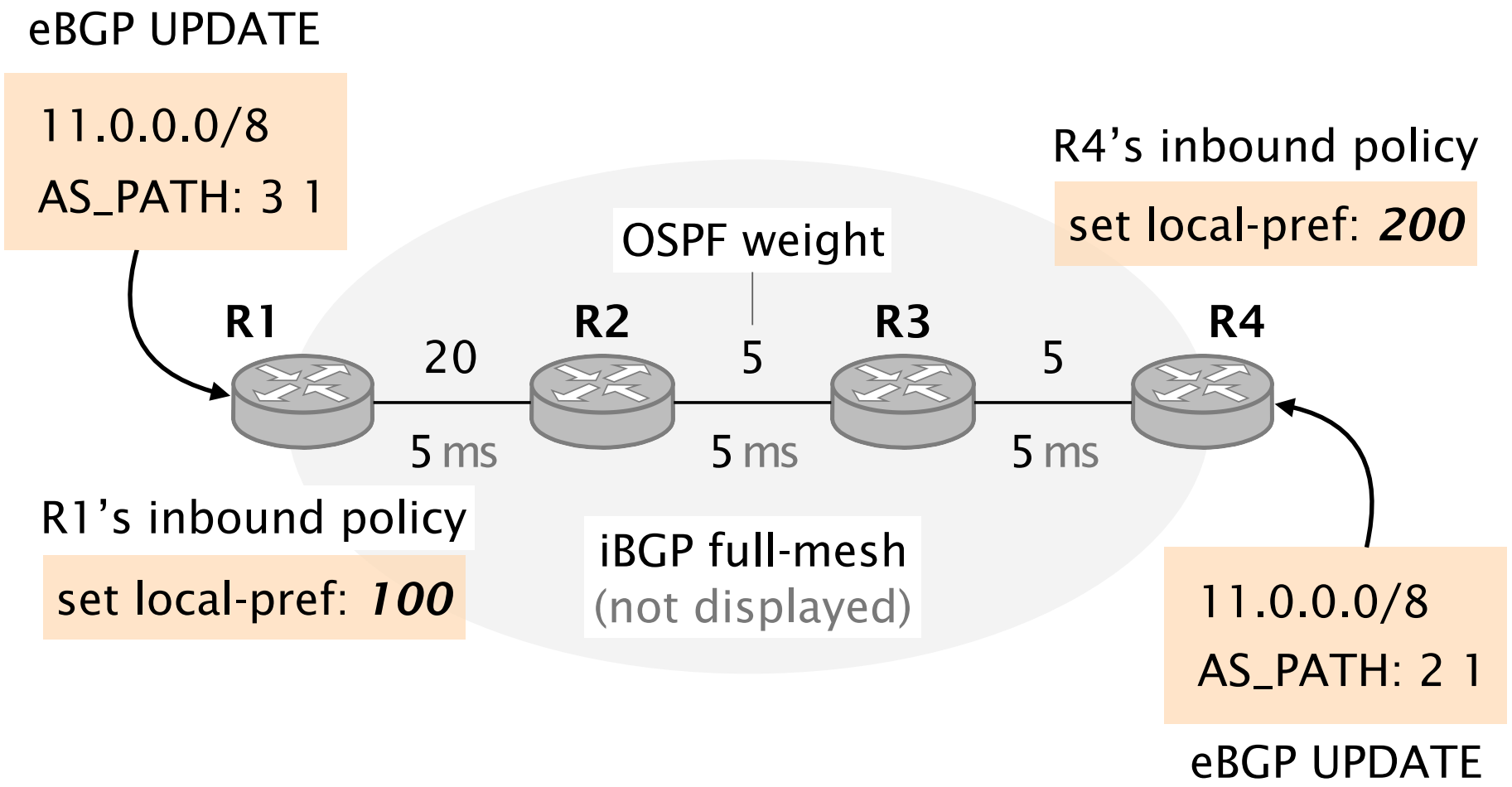
1 prefers to reach 0

via 2 rather than directly

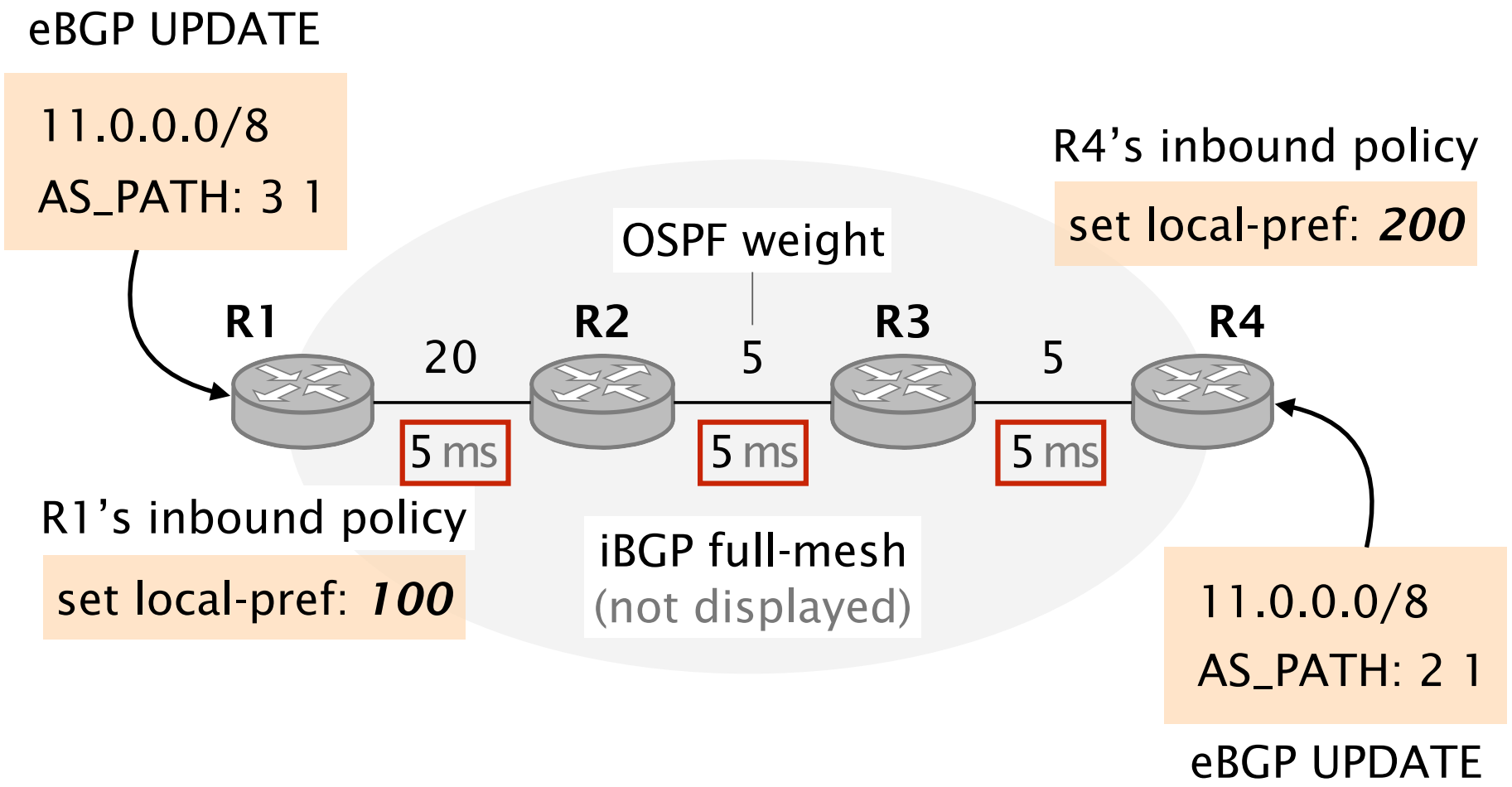


You could reach such a „preference list“
e.g., with route-maps matching on the AS path
and different local preferences

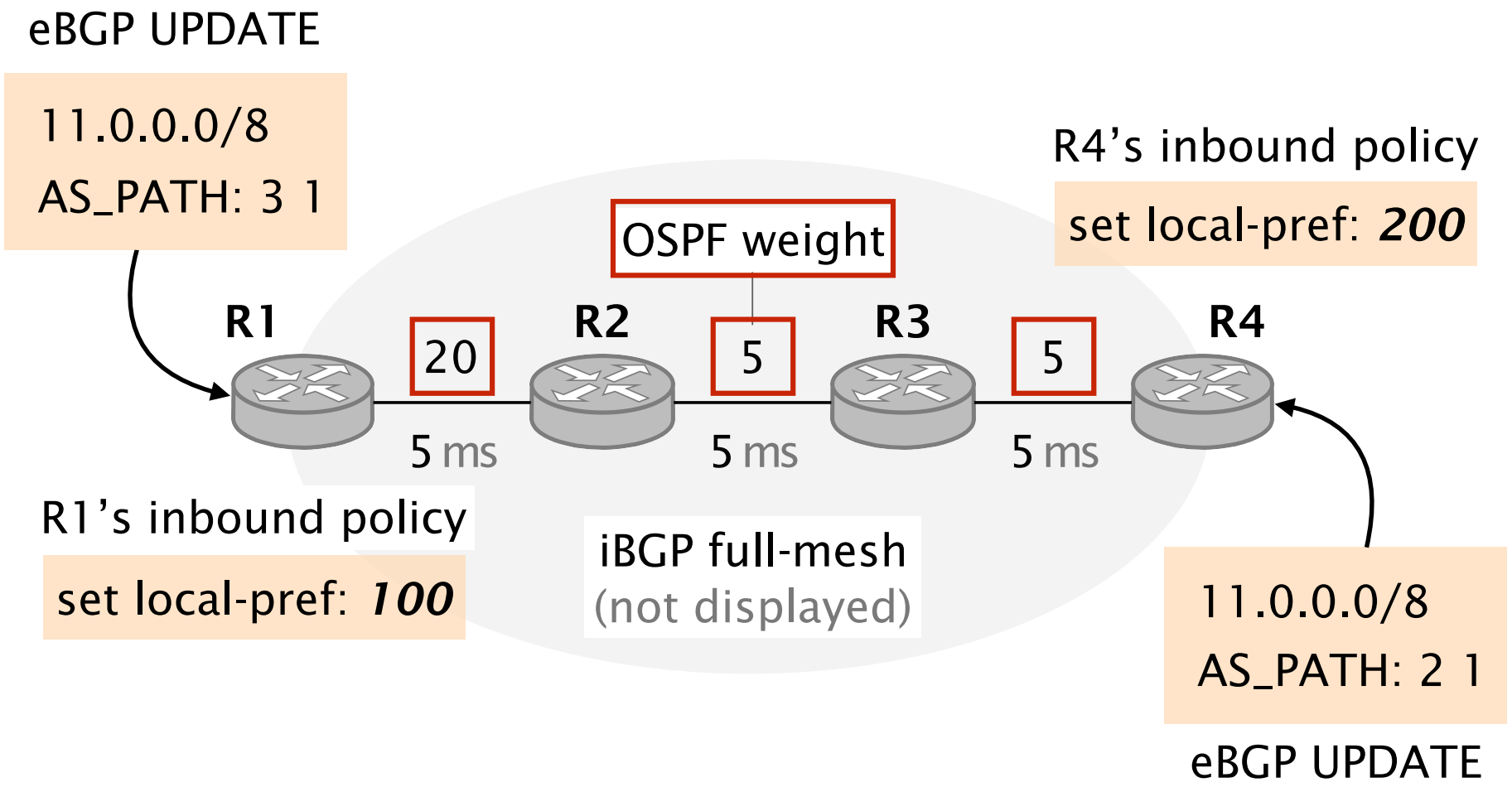
Task 2: Left? Right? Both? (Exam question 2017)



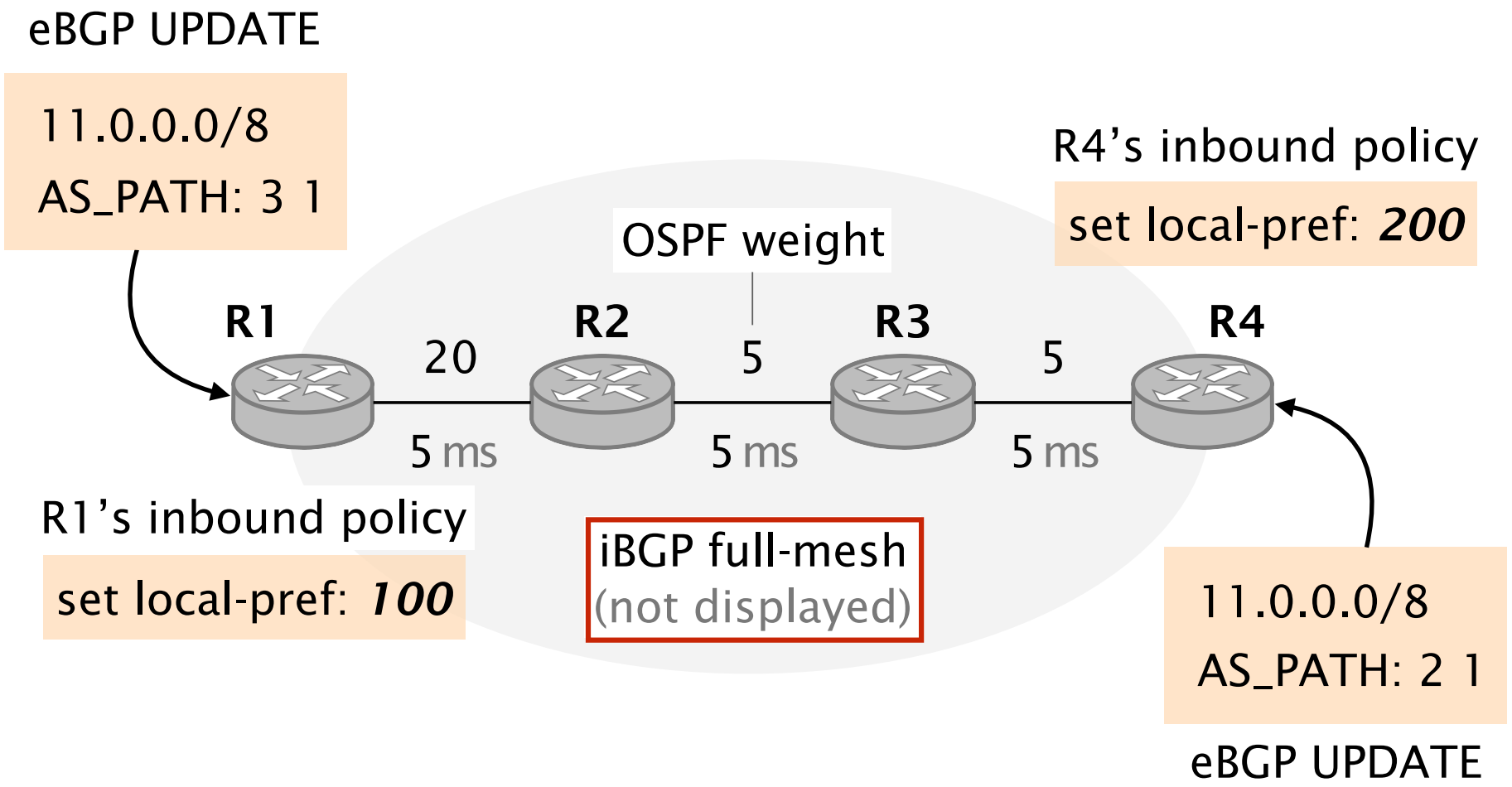
We know the propagation delay between routers



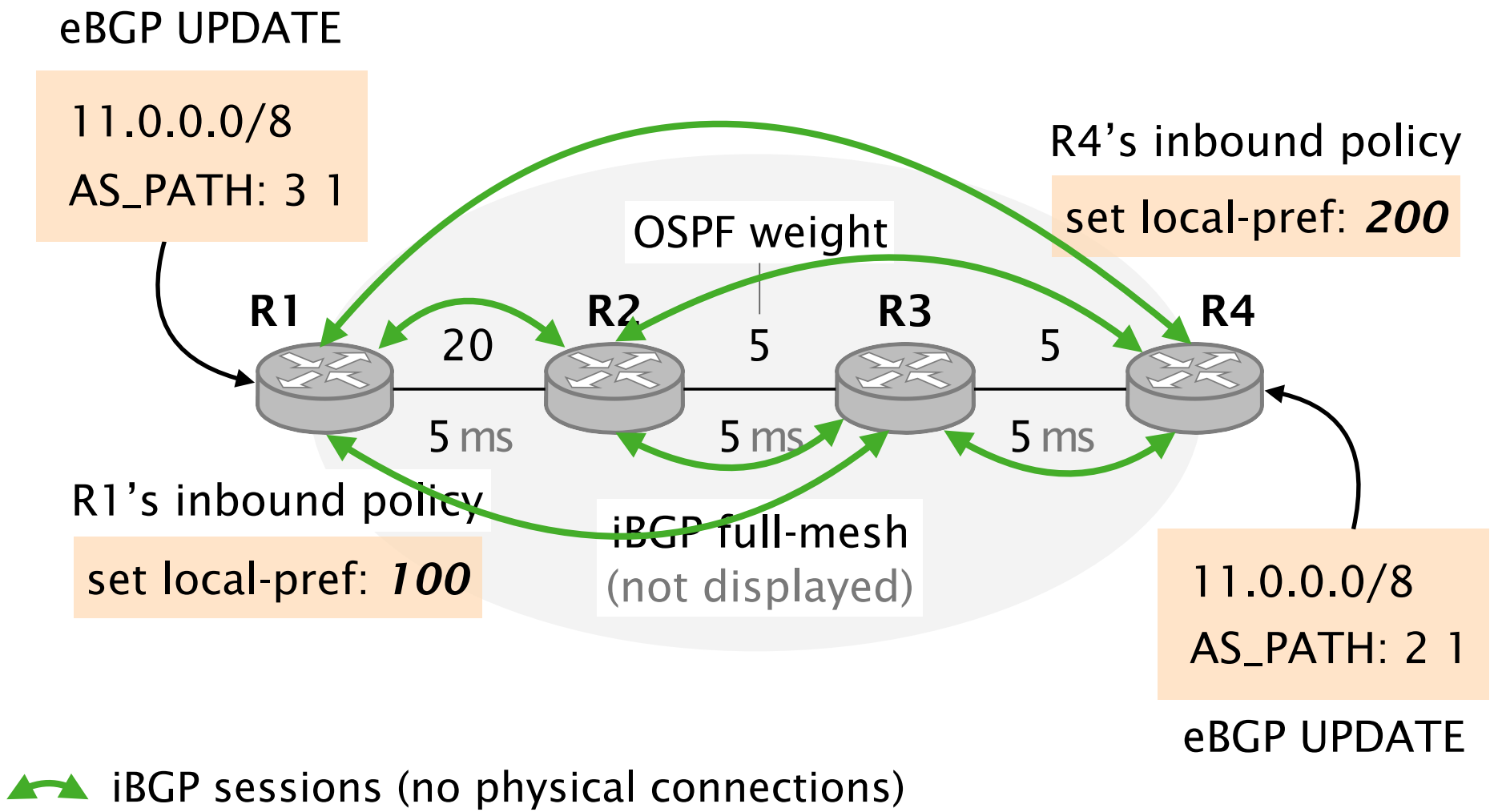
We know the OSPF weights



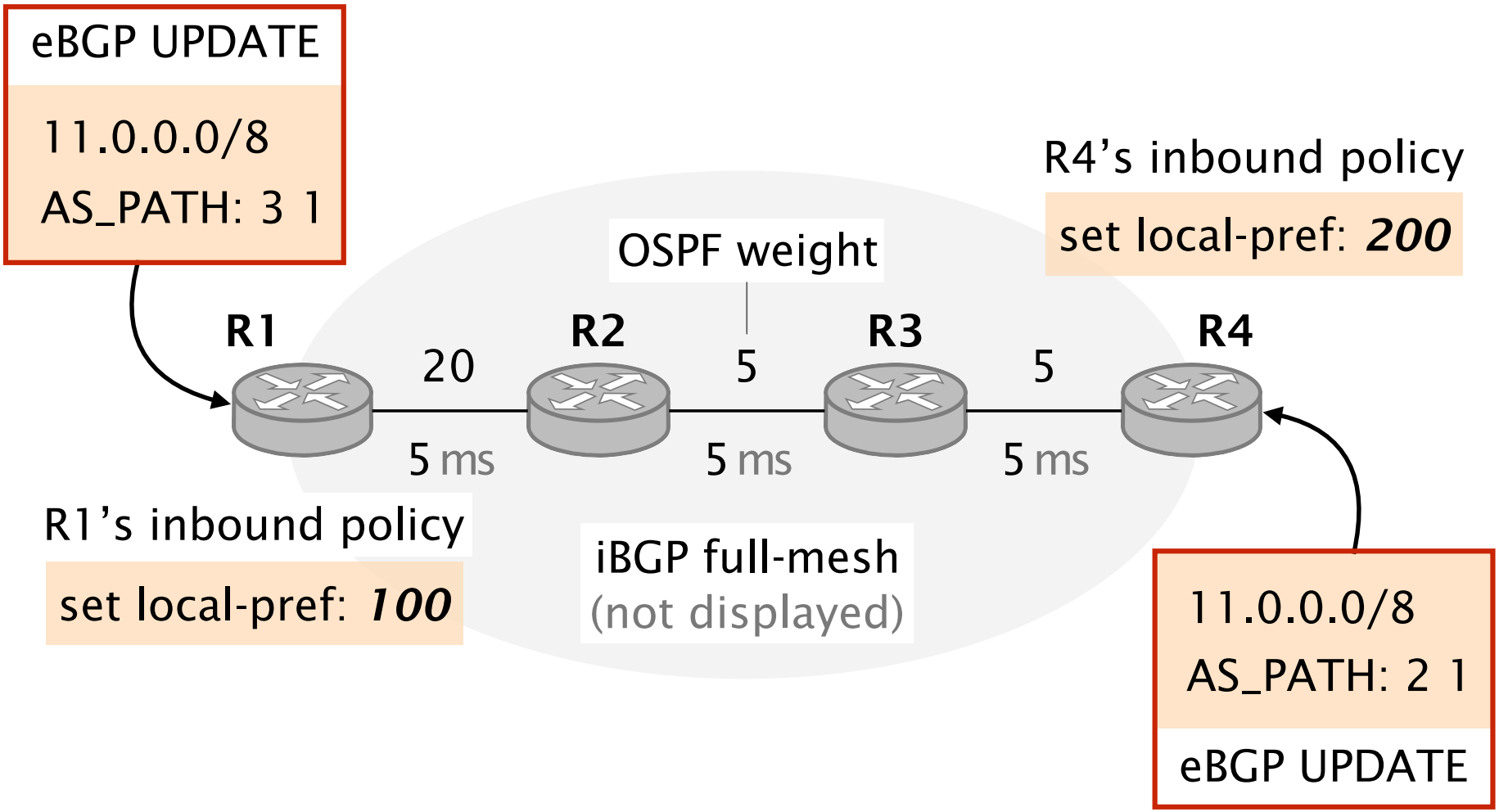
There is an iBGP full-mesh



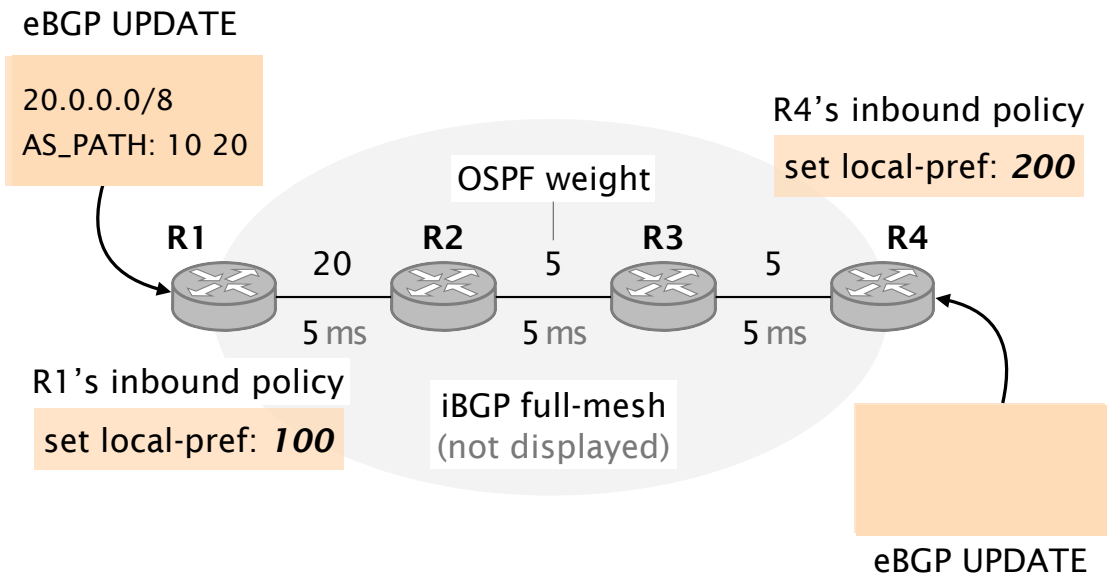
There is an iBGP full-mesh (would look like this)



Two eBGP sessions receive updates for 11.0.0.0/8

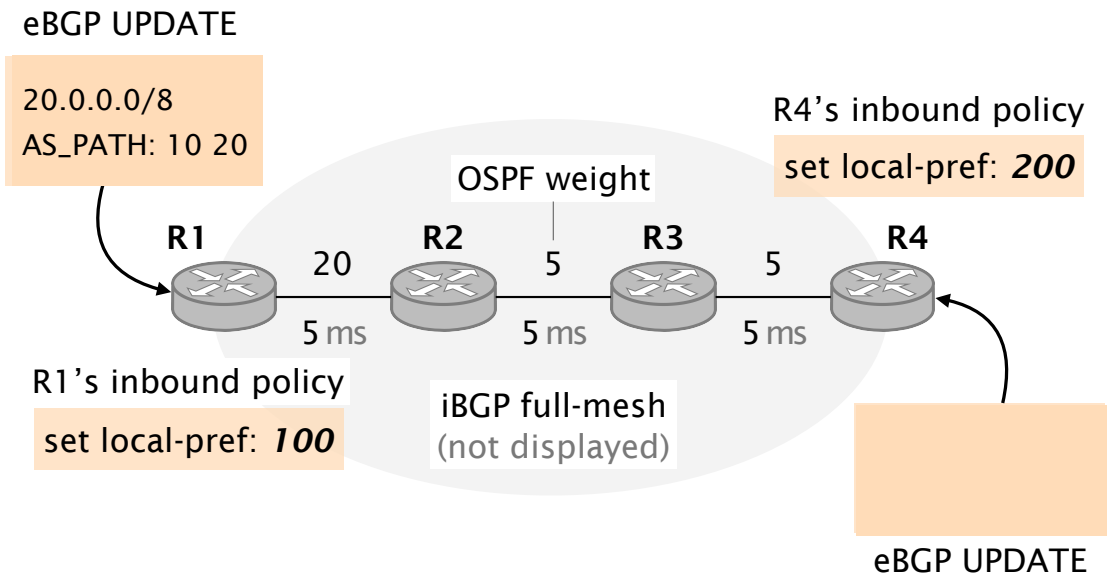


Let's look at an (unrelated) example



R1 receives an UPDATE for 20.0.0.0/8 [AS_PATH: 10 20]

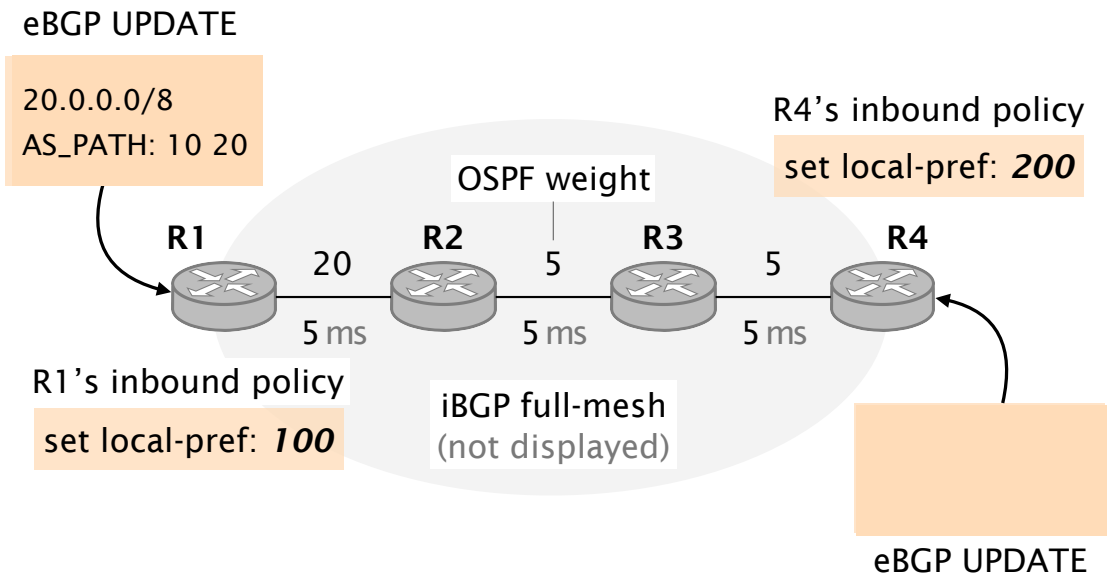
This would trigger the following message



Timestamp [0 ms] R1 sends the message

20.0.0.0/8 - [10 20] - LP 100 to [R2, R3, and R4]

Next-hops used by each router after 15ms (why?)



Next-hops for 20.0.0.0/8 (not *BGP* next-hops):

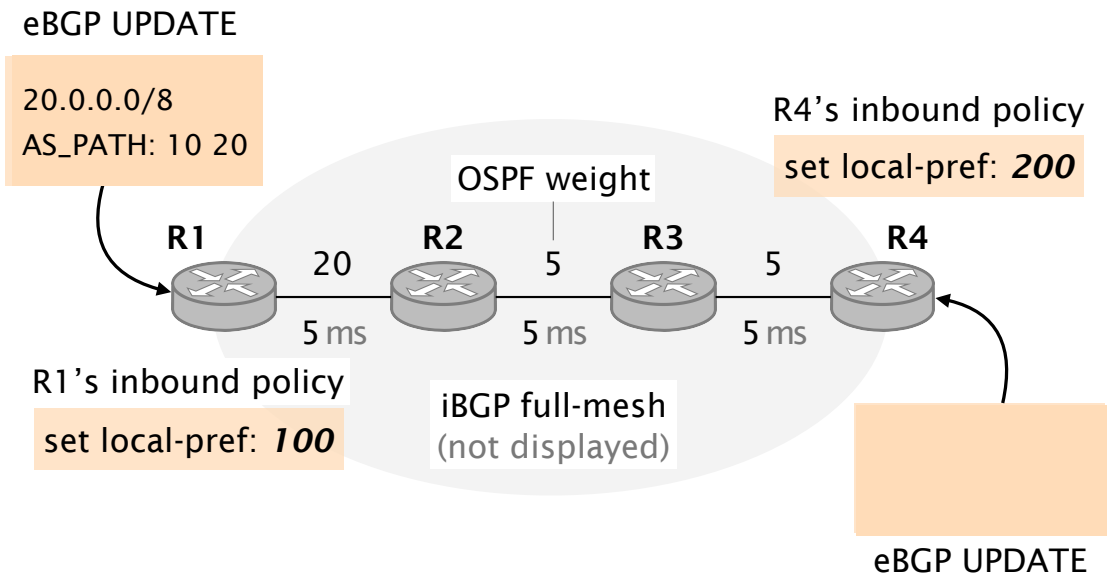
R1: <external>

R2: R1

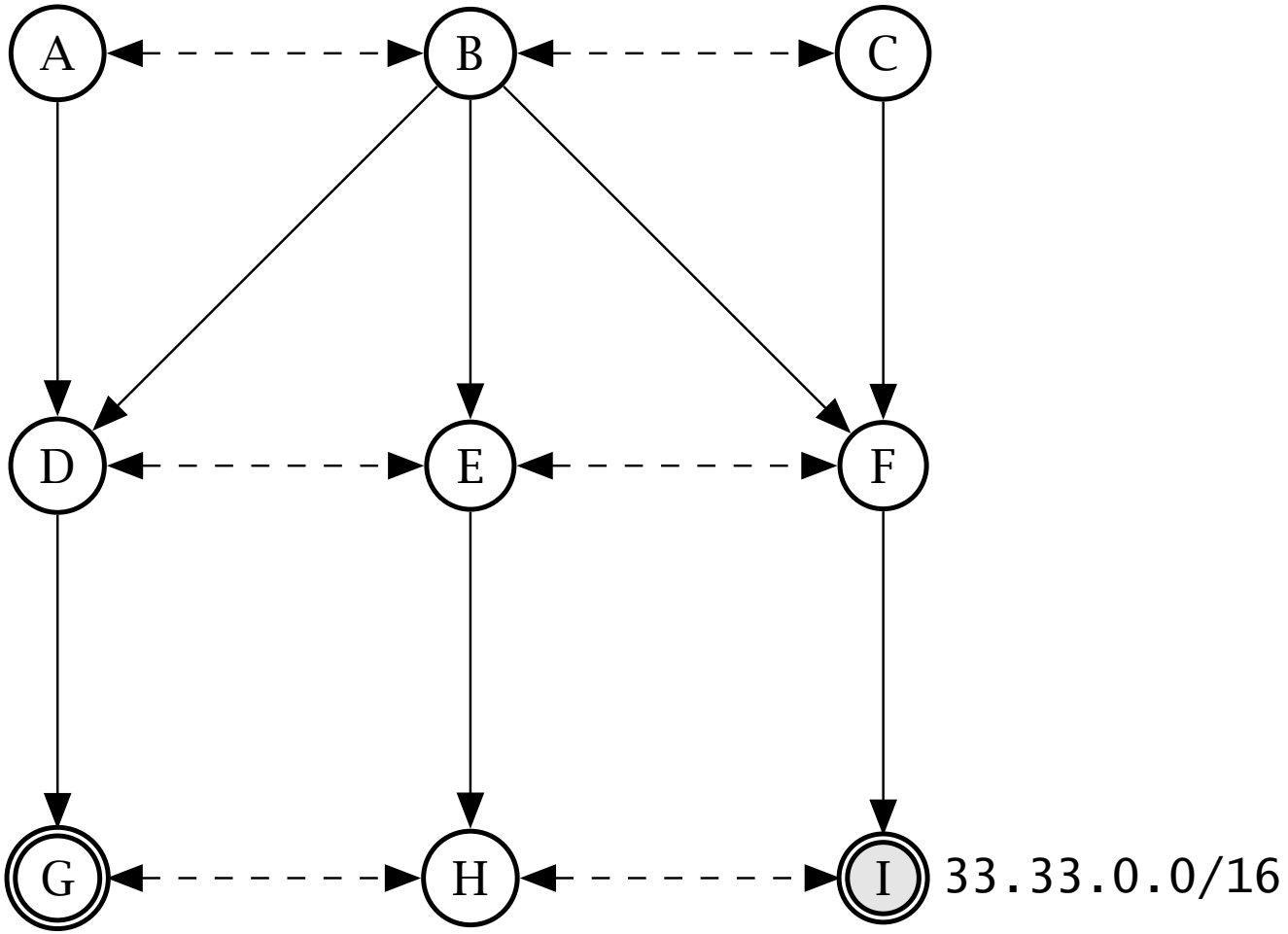
R3: R2

R4: R3

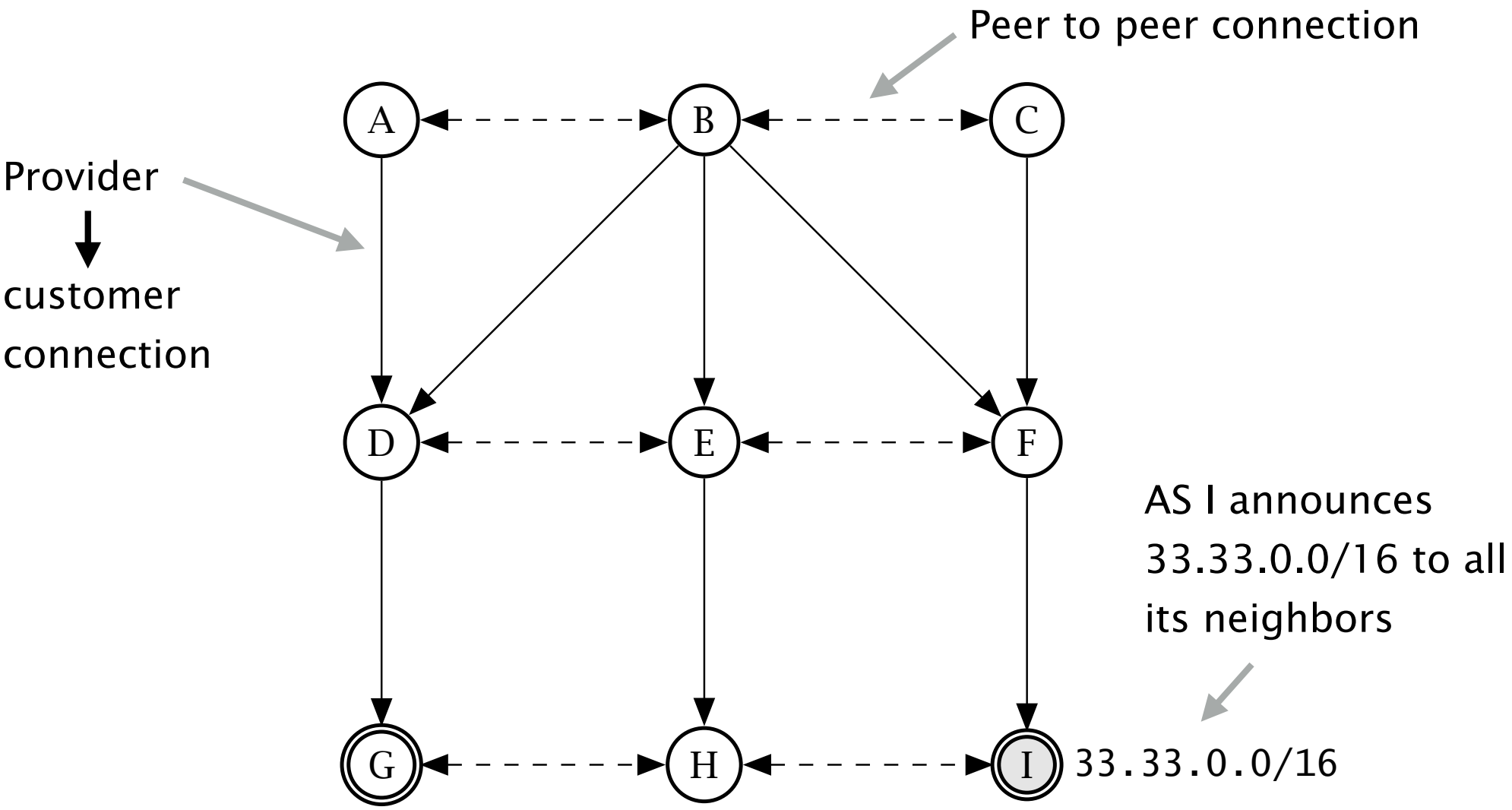
Try to solve the exercise in a similar way



Task 3: BGP Security (Exam Question 2020)



Task 3: BGP Security (Exam Question 2020)



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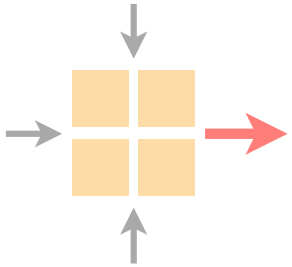

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