AP Computer Science Principles
Ticket Out the Door
Set 10: Routing with Redundancy

Name _____ Period _____

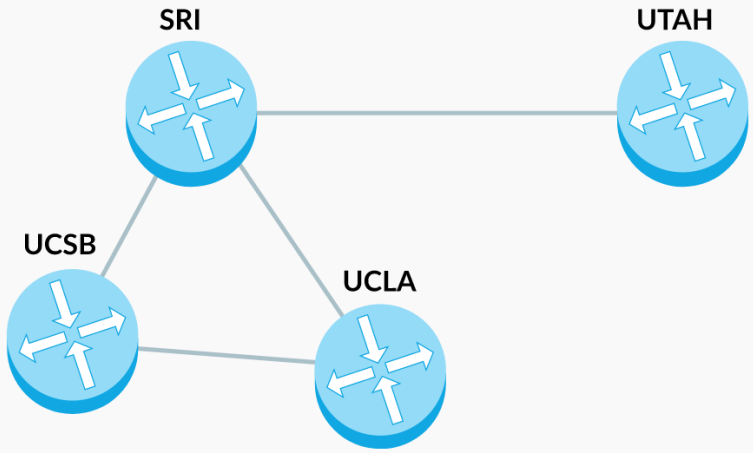
Skill 10.02 Exercise 1

In the Internet Protocol (IP), computers send messages to each other through a network of routers, with each message split up into packets. How do routers determine where a packet needs to go?

(a) Routers look up the packet ID in a database, and find the destination address in the database.
(b) Routers look at the IP packet header and use the destination address field.
(c) Routers ask DNS servers for the final destination of each packet.
(d) Routers make best guesses based on the content of the packet data.
(e) Routers wait for subsequent packets that contain the destination address.

Skill 10.03 Exercise 1

The ARPANET was the precursor to the Internet, the network where Internet technology was first tested out. It got started in 1969 with just four computers connected to each other. This is a map of ARPANET in 1969:

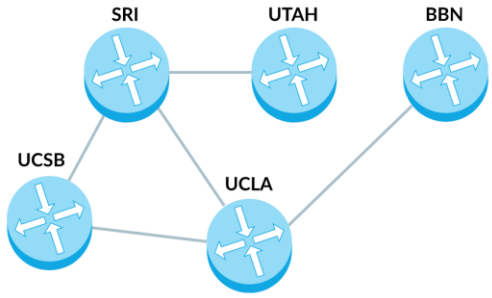


How many routes are there between Utah and UCLA?

2

Skill 10.04 Exercise 1

The 1970 ARPANET was not very fault tolerant. With so few connections between nodes, a failure could easily disrupt the ARPANET. If a computer wanted to send a message from Utah to BBN, which connections definitely needed to stay available?



sri and ucla