California State University, Monterey Bay

Week 6 - Homework 8

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CST311

Introduction to Computer Networks

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Problem

This problem is taken from 'Computer Networking: A Top-Down Approach', 6/E by Kurose and Ross.

Perform a traceroute between source and destination on the same continent at three different hours of the day. Consider a datagram network using 8-bit host addresses. Suppose a router uses longest prefix matching and has the following forwarding table:

Prefix	Match Interface
00	0
010	1
011	2
10	2
11	3

For each of the four interfaces, give the associated range of destination host addresses and the number of addresses in the range.

Prefix Match	Range	Minimum	Maximum
00	64	00000000 = 0	00111111 = 63
01	64	01000000 = 64	01111111 = 127
10	64	10000000 = 128	10111111 = 191
11	64	11000000 = 192	11111111 = 255