Quiz 7

Due May 1 at 2:15pm   **Points** 6   **Questions** 3
Available Apr 28 at 2pm - May 3 at 9:15am   **Time Limit** 15 Minutes

Instructions

Please provide as many details as possible, so we may give your partial credits (in case the final answer is not correct).

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	15 minutes	6 out of 6

Score for this quiz: **6** out of 6
Submitted Apr 28 at 3:10pm
This attempt took 15 minutes.

Question 1	2 / 2 pts

Consider a subnet with prefix 128.119.40.128/26. What is the range of IP addresses (of form a.b.c.d) that can be assigned to this network?
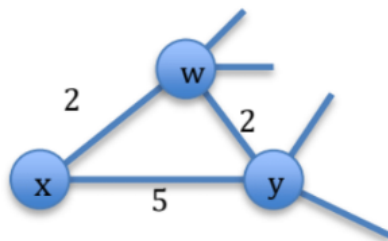
Your Answer:

The given subnet is 128.119.40.128/26. The subnet mask for this prefix is 255.255.255.192, and the network address is 128.119.40.128. The range of assignable IP addresses within this subnet is 128.119.40.129 to 128.119.40.190.

Consider the network fragment shown below. The node x has only 2 attached neighbors nodes y and w. The node w has a minimum-cost path to node u (not shown in the figure), of 5. Similarly, the node y has a minimum-cost path to node u (still not in the figure) of 6. The complete paths from w to u and from y to u are not shown. Assuming all link values are always positive, then:

If the distance vector routing algorithm in the network has converged, what are x's least distances to destination w, y and u (given as $D_x(w)$, $D_x(y)$ and $D_x(u)$)?

Your Answer:

Based on the given information, we should calculate the least distance from x to u using the path x -> w -> y -> u.

1. Direct distances:
   Dx(w) = 2

   Dx(y) via Dx()

2. Calculate the least distance from x to u through the path x -> w -> y -> u:
   W to Y: 2
   Y to U: 5
   Dx(u) = Dx(w) + W to Y + Y to U
   Dx(u) = 2 + 2 + 5
   Dx(u) = 9

Least distances from node x:
Dx(w) = 2
Dx(y) = 4
Dx(u) = 9

> $D_x(u) = \min \{ c(x,w) + D_w(u), D_y(u) + c(x,y) \} = \min\{ 2+5, 5+6\}=\min\{ 7, 11\}$
> =7

Question 3   2 / 0 pts

[Bonus Question] **Give two reasons for why IPv6 packets not have checksum?**
(2 points)

Your Answer:

IPv6 packets do not have a checksum due to two main reasons: 1)
simplification and improved processing speed at routers, and 2) redundancy, as
modern networking hardware and higher layer protocols already implement
their own error detection mechanisms.

Quiz Score: **6** out of 6