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Bijoy Basak

Answer to the question no. 1

1 (a)

Given,

address = 128. 232. 176. 0/21

For Department A:

60 - 100 hosts

= 102 address minimum

$128 = 2^7$

subnet bits = 32 - 7 = 25

subnet = 128.232.176.0/25 to
128.232.176.127/25

mask = 255.255.255.128

For department B:

150 - 220 hosts

= 222 address minimum

$256 = 2^8$

subnet bits = 32 - 8

= 24

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subnet = 128.232.177.0/24 to
~~128.232.255~~
128.232.177.255/24

mask = 255.255.255.0

For dept. C:

20-30 hosts
= 32 address need

$B2 = 2^5$ subnet bit = 32-5 = 27

subnet = 128.232.176.128/27
128.232.176.159/27

mask = 255.255.255.224

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1(b)

For 4th new dept. with 30 hosts

32 address minimum needed

$32 = 2^5$. bits = 32 - 5 = 27

subnet = 128.232.176.160/27 to
128.232.176.192/27

mask = 255.255.255.224

1(c)

The school open department E as a
Fifth dept. to similar B.

IPV4 subnet mask = 255.255.255.0

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Answer to the question no. 2

2(a)

TCP slow start is operating:

~~1-7 and 17-24~~
1-6 and 23-26

2(b) 6 to 23

2(c) After 16th transmission round, is segment loss detected by triple duplicate ACK.

2(d) The initial value of ssthreshold at first transmission round: from the graph it is ~~29~~ 32.

2(e) $42/2 = 21$

2(f) $24\text{th} = \frac{26}{2} = 13$

2(g) The 70th sent:

1+2+4+8+16+32+33 .

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2. g.

congession window size = $\frac{8}{2}$

$= 4$

ssthoresold = $\frac{8}{2} = 4$

Bijoy (6)

Ans 13)

(a)

D
$D_D(B) = \infty$
$D_D(C) = 2$
$D_D(E) = 2$

B
$D_B(B) = 0$
$D_B(C) = 1$
$D_B(D) = \infty$
$D_B(E) = 2$

E
$D_E(B) = 2$
$D_E(C) = 5$
$D_E(D) = 2$
$D_E(E) = 0$

(b)

New table:

D
$D_D(B) = \cancel{\min}\ 3$
$D_C(C) = 2$
$D_D(D) = 0$
$D_D(E) = 2$

$D_B = \min(\infty, 1+2, 1+2)$
$= 3$

$D_C(C) = \min(2+, 2, 1+7)$
$= 2$

$D_E(E) = \min(2, 7+2)$
$= 2$

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B

$D_B(B) = 0$

$D_B(C) = 1$

$D_D(D) = 3$

$D_D(E) = 2$

$\min(1, 1, 7) = 1$

$\min(\infty, 1+2, 4) = 3$

$\min(2, 1+5, 2) = 2$

C

$D_C(B) = 1$

$D_C(C) = 0$

$D_C(D) = 2$

$D_C(E) = 3$

$\min(1, 1, 7) = 1$

$\min(2, 2, 7) = 2$

$\min(5, 3, 4) = 3$

E

$D_E(B) = 2$

$D_E(C) = 3$

$D_E(D) = 2$

$D_E(F) = 0$

$\min = \{2, 7, 2\} = 2$

$\min = (5, 3, 4) = 3$

$\min = (2, 7, 2) = 2$

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Answer to the question no. 4

4(a)

step 1:
mine.ja.net request local DNS dns1.ja.net

step 2:
ds1.ja.net request sent to Root DNS

step 3:
Root server pass the request to TLD DNS

step 4:
TLD DNS request sent to .com alternative DNS.

step 5:
configured yours.foobar.com and sent to host

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4(b)

~~In iterative dns server~~ .

The local DNS server can transfer queue to the other DNS in heiracy order. Every server reply with, which server should be wanted next.

Compare to this solution, one achieved using iterative DNS has less cost and more hieracy.

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Answer to the question no. 5

I think hop-by-hop backpressure is more efficient.

Because,

When, A-E transfer data E occure congestion. E sent a singhal to A to say Reduce the ~~sour~~ transfer Rate.

In other hand.

A — D transfer data, D occure congestion D sent the signal to reduce data Rate and F reduce its Rate and F sent ~~neg~~ signal to E to reduce the rate and E reduce its data rate, then E sent a signal to source A to reduce the Rate. Then A reduce the transfer rate.

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on the other hand choke packet has some data loss in its choke mgs.

So. hop-by-hop is best option

~~Answer to the question no. 3~~

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Answer to the question no. 6

6(a)

The sequence number: 357

Source port number: 205

Destination port number: 80

6(b)

The acknowledment number: ~~257~~ 357

The source port: 80

The destination port: 205

6(c)

The acknowledgment number = 257

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6(d)