

CON Assignment- Networks

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1 Q 15

1.1 a)

	A	B	C	D	E	F
A	0	Inf.	3	8	Inf.	Inf.
B	Inf.	0	Inf.	Inf.	2	Inf.
C	3	Inf.	0	Inf.	1	6
D	8	Inf.	Inf.	0	2	Inf.
E	Inf.	2	1	2	0	Inf.
F	Inf.	Inf.	6	Inf.	Inf.	0

We put 0 on the diagonal elements. We place the edge distances for neighbours and infinite between the pairs which are not neighbours.

1.2 b)

	A	B	C	D	E	F
A	0	Inf.	3	8	4	9
B	Inf.	0	3	4	2	Inf.
C	3	3	0	3	1	6
D	8	4	3	0	2	Inf.
E	4	2	1	2	0	7
F	9	Inf.	6	Inf.	7	0

Consider the elements 2 edges away and calculate their minimum distance from the element. Using the table in part a) we can create table b).

1.3 c)

	A	B	C	D	E	F
A	0	6	3	6	4	9
B	6	0	3	4	2	9
C	3	3	0	3	1	6
D	6	4	3	0	2	9
E	4	2	1	2	0	7
F	9	9	6	9	7	0

Consider the elements 3 edges away and calculate their minimum distance from the element. Using the table in part b) we can create table c).

2 Q 40

2.1 a)

For A- Total 72 hosts are required. The nearest power of 2 is 128. Therefore total hosts are 128. One is given to broadcast address, one to network address. Address of first host is 200.1.1.1 and last host is 200.1.1.72. Network address can be set to 200.1.1.0 and broadcast as 200.1.1.127.

For B- Total 35 hosts are required. The nearest power of 2 is 64. Therefore total hosts are 64. One is given to broadcast address, one to network address. Address of first host is 200.1.1.129 and last host is 200.1.1.163. Network address can be set to 200.1.1.128 and broadcast as 200.1.1.191.

For C- Total 20 hosts are required. The nearest power of 2 is 32. Therefore total hosts are 32. One is given to broadcast address, one to network address. Address of first host is 200.1.1.193 and last host is 200.1.1.212. Network address can be set to 200.1.1.192 and broadcast as 200.1.1.223.

For D- Total 18 hosts are required. The nearest power of 2 is 32. Therefore total hosts are 32. One is given to broadcast address, one to network address. Address of first host is 200.1.1.225 and last host is 200.1.1.242. Network address can be set to 200.1.1.224 and broadcast as 200.1.1.255.

2.2 b)

We can divide A in two subnets as lots of space is wasting. And increase the space for D to 64 bits.

For A- Total 72 hosts are required. We will give 64 and 32 units. Therefore total hosts are 96. For 64 spaced- one is given to broadcast address, one to network address. Address of first host is 200.1.1.1 and last host is 200.1.1.62. Network address can be set to 200.1.1.0 and broadcast as 200.1.1.63. For 32 spaced- one is given to broadcast address, one to network address. Address of first host is 200.1.1.65 and last host is 200.1.1.74. Network address can be set to 200.1.1.64 and broadcast as 200.1.1.95.

For B- Total 35 hosts are required. The nearest power of 2 is 64. Therefore total

hosts are 64. One is given to broadcast address, one to network address. Address of first host is 200.1.1.97 and last host is 200.1.1.131. Network address can be set to 200.1.1.96 and broadcast as 200.1.1.159.

For C- Total 20 hosts are required. The nearest power of 2 is 32. Therefore total hosts are 32. One is given to broadcast address, one to network address. Address of first host is 200.1.1.161 and last host is 200.1.1.180. Network address can be set to 200.1.1.160 and broadcast as 200.1.1.191.

For D- Total 34 hosts are required. The nearest power of 2 is 64. Therefore total hosts are 64. One is given to broadcast address, one to network address. Address of first host is 200.1.1.193 and last host is 200.1.1.226. Network address can be set to 200.1.1.192 and broadcast as 200.1.1.255.