Assignment 7

TCP/IP networking

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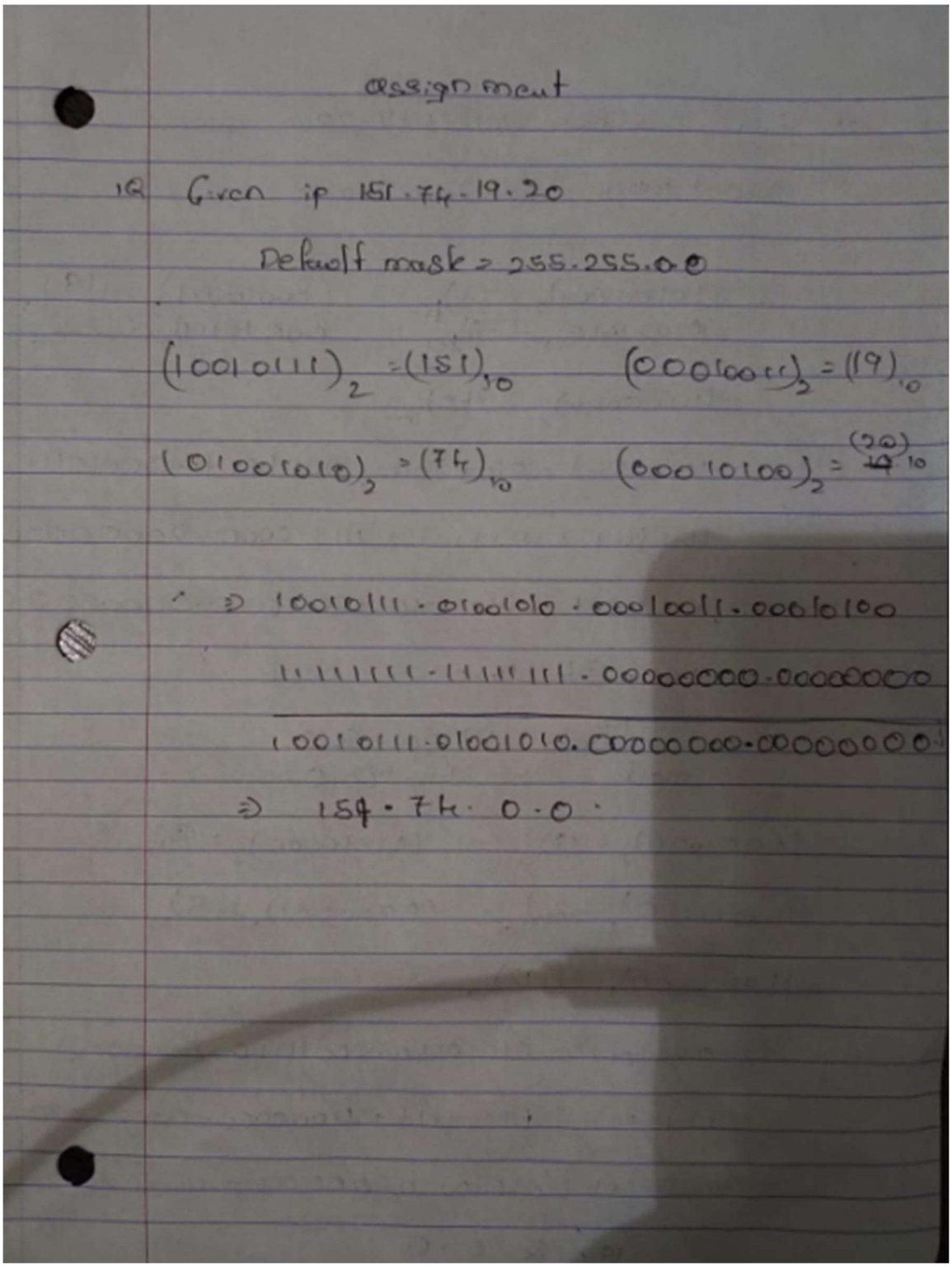

assignment

1Q Given ip 151.74.19.20

Default mask = 255.255.00

$(10010111)_2 = (151)_{10}$ $(00010011)_2 = (19)_{10}$

$(01001010)_2 = (74)_{10}$ $(00010100)_2 = (20)_{10}$

⇒ 10010111.01001010.00010011.00010100

11111111.11111111.00000000.00000000

10010111.01001010.00000000.00000000

⇒ 154.74.0.0

2Q Given ip address 161.74.19.23 ,

Subnet mask : 255.255.240.0

$\Rightarrow (10100001)_2 = (161)_{10}$ $(00010011)_2 = (19)_{10}$

$(01001010)_2 = (74)_{10}$ $(00010111)_2 = (23)_{10}$

$(11110000)_2 = (240)_{10}$

$\Rightarrow$ 10100001 . 01001010 . 00010011 . 00010111

11111111 . 11111111 . 11110000 . 00000000

10100001 . 01001010 . 00010000 . 00000000

$\Rightarrow$ 161 . 74 . 16 . 0

3Q Given address 19.30.80.5.

mask : 255.255.192.0

$(00010011)_2 = (19)_{10}$ $(01010000)_2 = (80)_{10}$

$(00011110)_2 = (30)_{10}$ $(00000101)_2 = (5)_{10}$

$(11000000)_2 = (192)_{10}$

00010011 . 01010000 . 00011110 . 00000101

11111111 . 11111111 . 11000000 . 00000000

00010011 . 01010000 . 00000000 . 00000000

19 . 80 . 0 . 0

00010011. 01010000.
00011110. 01010000. 00000101

11111111. 11111111. 11000000. 00000000

00010011. 00011110. 01000000. 00000000

19. 30. 64. 0

4) given ip address 181.56.00

to design a 1000 subnets

$2^x = 1000$

$\Rightarrow 2^{10} = 1024$

$\Rightarrow$ we need 10 masks

subnet msk = 255.255.252.0

first subnet $\Rightarrow$ 181.56.0.0

$\Rightarrow$ 181.56.3.255

Second subnet : 181.56.4.0

181.56.7.255

Last subnet : 181.57.252.0

181.57.255.255