ASSIGNMENT 4 SOLUTION

18. Time-to-live.

19. No. IP header checksum only computes the checksum of an IP packet's IP header fields, which share no common bytes with the IP datagram's transport-layer segment part.

Problem 8

a)

Prefix Match	Link Interface
11100000 00	0
11100000 01000000	1
1110000	2
11100001 1	3
otherwise	3

b) Prefix match for first address is 5th entry: link interface 3
Prefix match for second address is 3nd entry: link interface 2
Prefix match for third address is 4th entry: link interface 3

Problem 9

Destination Address Range	Link Interface
00000000 through 00111111	0
01000000 through 01011111	1
01100000 through 01111111	2
10000000 through 10111111	2
11000000 through 11111111	3

number of addresses for interface 0 = $2^6 = 64$

number of addresses for interface 1 = $2^5 = 32$

number of addresses for interface 2 = $2^6 + 2^5 = 64 + 32 = 96$

number of addresses for interface 3 = $2^6 = 64$

Problem 21

S2 Flow Table	
Match	**Action**
Ingress Port = 1; IP Src = 10.3.*.*; IP Dst = 10.1.*.*	Forward (2)
Ingress Port = 2; IP Src = 10.1.*.*; IP Dst = 10.3.*.*	Forward (1)
Ingress Port = 1; IP Dst = 10.2.0.3 Ingress Port = 2; IP Dst = 10.2.0.3 Ingress Port = 1; IP Dst = 10.2.0.4 Ingress Port = 2; IP Dst = 10.2.0.4	Forward (3) Forward (3) Forward (4) Forward (4)
Ingress Port = 4 Ingress Port = 3	Forward (3) Forward (4)