P5:

a)

**Prefix Match Link Interface**

11100000 0

11100001 00000000 1

11100001 2

otherwise 3

b) Prefix match for first address is 4th entry: link interface 3

Prefix match for second address is 2nd entry: link interface 1

Prefix match for first address is 3rd entry: link interface 2

P6:

**Destination Address Range Link Interface**

**------------------------------------------------------------------------------------**

00000000

through 0

00111111

01000000

through 1

01111111

10000000

through 2

10111111

11000000

through 3

11111111

Number of addresses in each range = 

P7:

**Destination Address Range Link Interface**

**------------------------------------------------------------------------------------------------------------------------**

10000000

through (64 addresses) 0

10111111

11000000

through(32 addresses) 1

11011111

11100000

through (32 addresses) 2

11111111

00000000

through (128 addresses) 3

01111111

P8:

Three net- work addresses (of the form a.b.c.d/x) that satisfy given constraints as follows:

* 223.1.17.0/25
* 223.1.17.128/26
* 223.1.17.192/26

P11:

The prefixes (of form a.b.c.d/x) for the four subnets as follows:

Destination Address Link Interface

-----------------------------------------------------------------------------------------

200.23.16/21 0

200.23.24/24 1

200.23.24/21 2

otherwise 3

P14:

Table

Description automatically generated

P16:

a) Home address : 192.168.1.1, 192.168.1.2, 192.168.1.3, 192.168.1.4

b) NAT Transalation table

|  |  |
| --- | --- |
| WAN side | LAN side |
| 24.34.112.235.4000 | 192.168.1.1.3345 |
| 24.34.112.235.4001 | 192.168.1.1.3346 |
| 24.34.112.235.4002 | 192.168.1.1.3345 |
| 24.34.112.235.4003 | 192.168.1.1.3346 |
| 24.34.112.235.4004 | 192.168.1.1.3345 |
| 24.34.112.235.4005 | 192.168.1.1.3346 |

P20:

Table

Description automatically generated

P21:

Consider again the scenario from P19 above. Give the flow tables entries at packet

switches s1 and s3, such that any arriving datagrams with a source address of h3 or h4 are

routed to the destination hosts specified in the destination address field in the IP datagram. (Hint:

Your forwarding table rules should include the cases that an arriving datagram is destined for a

directly attached host or should be forwarded to a neighboring router for eventual host delivery

there.)