

10. [5 points]: Consider a link that has a capacity of 20 Mbps and receives five traffic flows with respective demands: { 2 Mbps, 4 Mbps, 6 Mbps, 10 Mbps, 15 Mbps }. Suppose that the router wishes to allocate rates to each of these flows in a *max-min* fair manner.

Give the resulting max-min fair allocation of flows, in the form { x_1 Mbps, x_2 Mbps, ... }, where x_i are the resulting flow rates in a max-min fair allocation.

(Answer legibly in the space below.)

~~Handwritten scribbles~~

{ 2, 4, 4.67, 4.67, 4.67 }

How to compute:

① Fair share is $20/5 = 4$.

② x_1 has excess 2. Split across remaining ^{2/3 =} 3 (0.67 each) who have excess demand.

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11. [5 points]: Consider the following longest prefix match forwarding table for 4-bit addresses:

Prefix	Port
0*	A
01*	B
0101	C
1*	D
111*	E

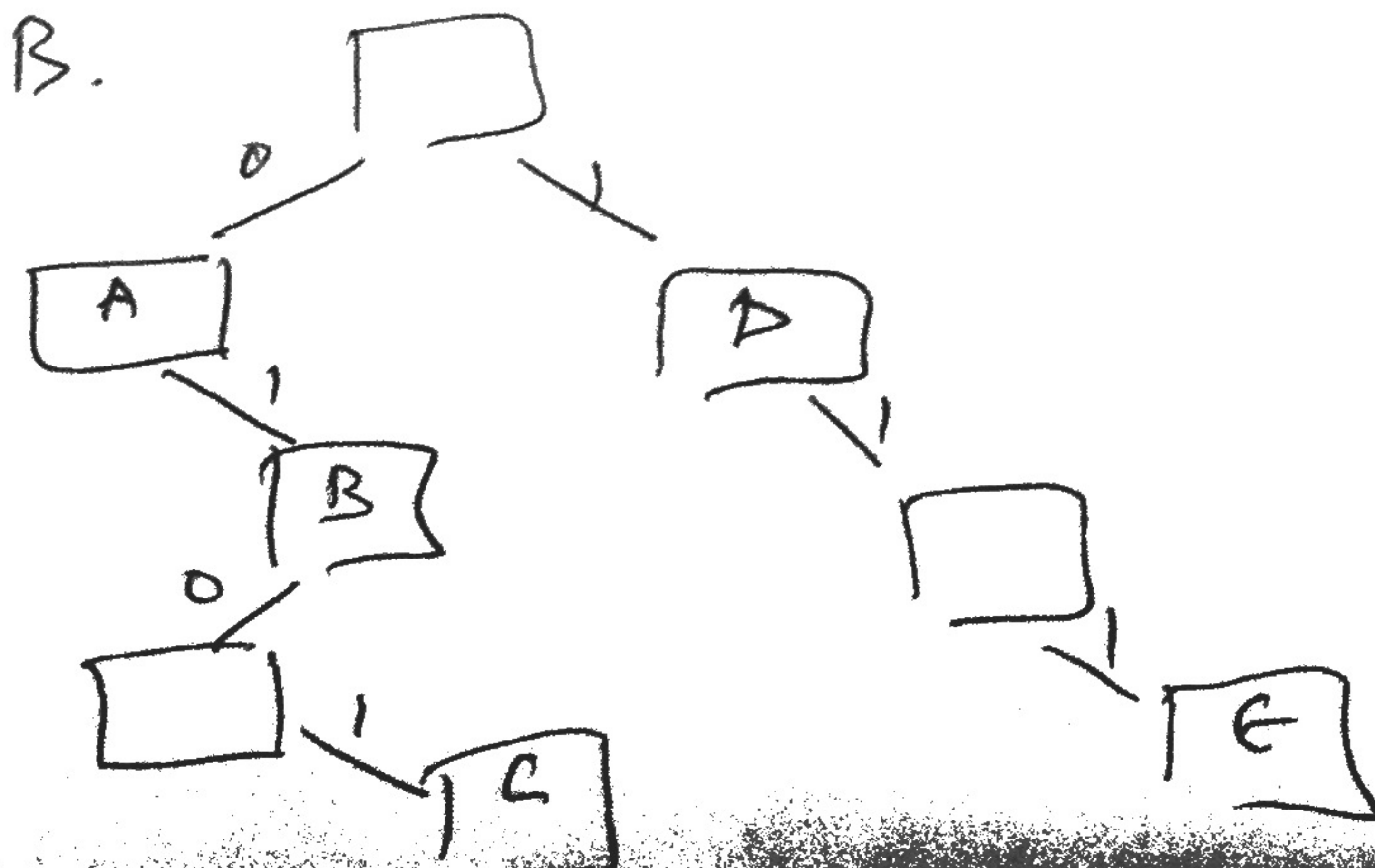
A. Assuming longest prefix match, what port would be used for destination address 0111?

B. Draw a simple *one-bit trie* representing the table.

C. Draw a simple *two-bit trie* representing the table.

(Answer legibly in the space below.)

A. B



Name:

C.

