P2.

a) No, you can only transmit one packet at a time over a bus.

b) No, only one memory read/write can be done at a time over the shared system bus. However

this is possible is if the two packet use different input and output buses. They will be forwarded

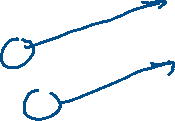
in parallel.

c) No, it is not possible, for it to be true, the two packets would have to be sent over the same output bus at the same time, which cannot be done

P4.

Graphical user interface, diagram

Description automatically generated



The largest number of slots is 3, The lines in red represent the first slot, in blue the second slot, and green the third slot.

1st slot(red):

* Send the top x and the y from the middle to their input queue

2nd slot(blue)

* Send middle x and bottom y to their input queue

3rd slot(green)

* Send bottom z to its input queue

P8.

Consider a router that interconnects three subnets: Subnet 1, Subnet 2, and Subnet 3. Suppose all of the interfaces in each of these three subnets are required to have the prefix 223.1.17/24. Also suppose that Subnet 1 is required to support at least 60 interfaces, Subnet 2 is to support at least 90 interfaces, and Subnet 3 is to support at least 12 interfaces. Provide three network addresses (of the form a.b.c.d/x) that satisfy these constraints

Given:

* Parent network address: 223.1.17/24
* We know 24 bits are prefix, and 8 are for the subnet and host portions
* Subnet 1: 60 interfaces
* Subnet 2: 90 interfaces
* Subnet 3: 12 interfaces

We begin with the largest subnet-> subnet 2

P12.

P14.

P18.