

p3.

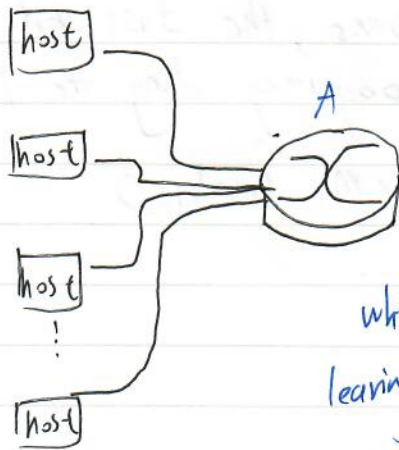
a. circuit-switched network would be more appropriate.

Reason: The application will continue running for a long period of time meanwhile need steady transmission.

When it use circuit-switched networks, the resources would be reserved for the users until the users release the resources, hence is suitable for users who need continuous network service.

On the other hand, packet-switched networks is suitable for users who need burst network service.

b. below depicts the worst case



the rate of packets running into the router A would be $\sum_{i=1}^n \frac{N}{K}$ (bps)

while the rate of packets leaving router A is LR (bps)

if $LR > \sum_{i=1}^n \frac{N}{K}$, no congestion control is needed.

However, if process time can't be negligible, it would be another case.