ECE 466 - Computer Networks II Winter 2008

Problem Set #7: Even more on Scheduling

- 1. Suppose flows A, B, C have average packet sizes of 50, 500, and 1500 bytes, and weights 0.5, 0.75, and 1.0. How many packet from each flow should a weighted round robin (WRR) scheduler transmit in each round?
- 2. Consider the following arrival scenario for a schedule.



- Assume throughout that $r_i = 1/3$ (for VC) and $\phi_i = 1/3$ (for WFQ) for i = 1, 2, 3.
- Assume that all packets are of equal size and that the transmission rate of the link is one packet per time unit (C = 1).
- (a) Devise the transmission schedule for a Virtual Clock (VC) scheduler. Provide the value of the variable $auxVC_i$ (i = 1, 2, 3) for each packet.
- (b) Devise the transmission schedule of a fluid-flow WFQ scheduler.
- (c) For each time unit, show the value of the system virtual time.
- (d) Using the result in (c), provide the virtual finishing time of each packet. Devise the transmission schedule of a packet-level WFQ scheduler.