CS 536 (Park) **Assignment IX** **Due: Oct. 25 (Fri.), 1996**

PROBLEM 1

(a) Read the material in pp. 149–173 from Bertsekas & Gallager (Data Networks). Write a one-page summary stating the most important results and a short interpretation in your own words why/why not the results are "relevant." (*Note: Five copies of the relevant pages are available on reserve in addition to the text book.*)

(b) Read pp. 335–338 from P & D.

PROBLEM 2

Signals, in UNIX, can interrupt a "slow" system call where a slow system call is one where one cannot easily put a bound on its termination (e.g., `read`, `recvfrom`, etc.). How is this problem handled under UNIX? Discuss how you are handling this problem in your code (Problem 2, Assignment VIII); If you are not, make sure to rectify it in your new code. Be very precise in your discussion of the signal handling/system call interrupt issue. Is your solution 100% correct? Justify your answer.

PROBLEM 3

Implement the two adaptive retransmission algorithms discussed in class (as two separate modules invokable by command-line arguments). Make the parameters α (β follows from α), μ, ϕ, δ readable from an intialization file. Perform two test runs, one, with the old algorithm using $\alpha = 0.8$, and two, with the Jacobson/Karels algorithm using $\mu = 1$, $\phi = 4$, and $\delta = 0.125$. Use an initial $EstimatedRTT$ value of 1sec. Compare their mutual performance as well as their performance against the static algorithm (using fixed timeout values) from Problem 2, Assignment VIII. Which one seems to be performing "better?" Discuss your results.