% a

N = 20; % number of simulator runs

lambda = [1500 1600 1700 1800 1900]; % values of lambda to test

results = zeros(length(lambda), 4, 2); % create matrix to store results

C = 10; % Link Cpacity (mbps)

f = 1000000; % Queue size in bytes

P = 100000; % Number of packets to stop simulation

b = 10^-6; % Bit-Error-Rate (ber)

alfa = 0.1; % 1 - confidence\_interval

for l=1:length(lambda)

tmp = zeros(4, N); % create matrix to store results

% run simulation N times and store in tmp

for i=1:N

[tmp(1, i), tmp(2, i), tmp(3, i), tmp(4, i)] = Simulator2(lambda(l), C, f, P, b);

end

% calculate mean and confidence interval from tmp and store in results

% results(x, y, 1) is mean, results(x, y, 2) is confidence interval

for i=1:4

results(l, i, 1) = mean(tmp(i, :));

results(l, i, 2) = norminv(1-alfa/2)\*sqrt(var(tmp(i, :))/N);

end

end

% Draw graph of packet loss variation with lambda

bar(lambda, results(:, 1, 1));

title("Packet Loss variation with λ");

xlabel("λ packets/s");

ylabel("Packet Loss (%)");

grid on;

hold on;

er = errorbar(lambda, results(:, 1, 1), results(:, 1, 2), results(:, 1, 2));

er.Color = [0 0 0];

er.LineStyle = 'none';

hold off;

% Draw graph of packet delay variation with lambda

bar(lambda, results(:, 2, 1));

title("Av. Packet Delay variation with λ");

xlabel("λ packets/s");

ylabel("Average packet delay (ms)");

grid on;

hold on;

er = errorbar(lambda, results(:, 2, 1), results(:, 2, 2), results(:, 2, 2));

er.Color = [0 0 0];

er.LineStyle = 'none';

hold off;