b1 = 10^-6; % Bit Error Rate of a)

b2 = 10^-4; % Bit Error Rate of b)

% probability of packet sizes remaining (all except 64, 110, 1518)

rem = 1 - (0.19 + 0.23 + 0.17);

% fill packetSizes with all possible packet sizes

packetSizes = (64:1518);

%calculate the probability of each packet size and fill already known ones (64, 110, 1518)

packetSizesProbs = ones(1, length(packetSizes)) .\* (rem / (length(packetSizes) - 3));

packetSizesProbs(1) = 0.19;

packetSizesProbs(110 - 63) = 0.23;

packetSizesProbs(1518 - 63) = 0.17;

% calculate the error probability of each packet size (b = 10^-6)

packetError = 1-((1-b1).^(packetSizes .\*8 ));

% calculate packet loss of system

c1 = sum(packetError .\* packetSizesProbs);

fprintf('Packet Loss of system b = 10e-6 (%%) = %1.5f\n', c1 \* 100);

% calculate the error probability of each packet size (b = 10^-4)

packetError = 1-((1-b2).^(packetSizes .\*8 ));

% calculate packet loss of system

c2 = sum(packetError .\* packetSizesProbs);

fprintf('Packet Loss of system b = 10e-4 (%%) = %1.5f\n', c2 \* 100);