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% BIOEN 217 A

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% Assignment 1: Ebola Cases

%Define Ebola Variables

month = 1:12;

sierraLeone = [80 258 180 478 1236 2932 1046 5778 1103 620 830 423];

liberia = [33 156 406 267 730 1503 691 832 477 208 112 115];

ebolaCases = [11628972 18378 7263;

6190280 14964 5305;

4503000 5530 2121];

% add new ebola cases to totals

newCases = [363; 756; 1005];

ebolaCases(:,2) = ebolaCases(:,2) + newCases;

% subtract corrected death toll estimates

newDeaths = [60; 23; 54];

ebolaCases(:,3) = ebolaCases(:,3) - newDeaths;

% correct population data

newPop = [1.5; 1; 0.7];

ebolaCases(:,1) = ebolaCases(:,1).\*newPop;

% plot cases in SL per month && label data

plot(month,sierraLeone, 'b', 'LineWidth',2);

axis([0 9 0 7000]);

xlabel('Time (Months)');

ylabel('Ebola Cases');

title('Ebola Cases Per Month in Sierra Lione');

hold

% plot cases in L per month && label data

plot(month,liberia, 'r', 'LineWidth',2);

% hightlight max val of SL, L

[maxSierra, iSierra] = max(sierraLeone);

[maxLiberia, iLiberia] = max(liberia);

plot(iSierra, maxSierra, 'mo');

plot(iLiberia, maxLiberia, 'blo');

% add a legend to graph

legend('sierraLione','liberia');

% end graph hold

hold off

