Weather Solution code

cities={'Lagos','Jakarta','Bangkok','Nairobi',...

'Rio de Janeiro','Accra','Longyearbyen','Khartoum'};

countrycode={'ng','id','th','ke','br','gh','no','sd'};

key='70e9f383955e7372c06948520cd38387';

figure('Units','Normalized','Position',[0,0,1,1]);

absmintemps=zeros(1,length(cities));

%absmintemps will store min of 5-day weather data (recorded every 3hrs)

%for each city

for i=1:length(cities)

url=sprintf('http://api.openweathermap.org/data/2.5/forecast?q=%s,%s&APPID=%s',cities{i},countrycode{i},key);

data=webread(url); %separate call for each city

fprintf('RETREIVING WEATHER DATA FOR %s...\n',cities{i})

tempvec=zeros(1,length(data.list)); %Will store min temp from every 3hrs

%Each element in data.list represents 3hrs of weather data

for j=1:length(data.list)

try %fixes indexing problem

tempvec(j)=data.list{j}.main.temp\_min;

catch

tempvec(j)=data.list(j).main.temp\_min;

end

end

absmintemps(i)=min(tempvec); %stores the absolute min temp over 5 days

tempsf=ktof(tempvec); % User-defined function for temp units

subplot(2,1,2) %Temp over time for each city

plot(3\*[1:length(tempsf)],tempsf,'-','LineWidth',2) %multiply by 3 for 3hr

ax2=gca;

ax2.XTick=0:12:120; %for aesthetics

xlabel('Time (hrs)')

ylabel('Temperature (F)')

title('Hourly Temperatures Over 5 Days')

hold on

end

legend(cities)

subplot(2,1,1) %Min temp for each city

abstempsf=ktof(absmintemps);

scatter(1:length(cities),abstempsf,'k\*')

xlabel('Cities')

ylabel('Temperature (F)')

title('Min Temperatures Over 5 Days')

ax=gca;

ax.XTick=1:length(cities);

ax.XTickLabel=cities; %for aesthetics

function out=ktof(in)

out=in\*(9/5)-459.67;

end