

```

function [myRegion, sName, sLat, sLon, myFuels, myNum] = energySort (rawData)
%ENERGYSORT
% [myRegion, sName, sLat, sLon, myFuels, myNum] = energySort (rawData)
%
%this function takes input from raw data cell array and sorts based on
%user's filter selections for region and for fuel type. The sorted data
%will be stored and returned in six different variables.
%
%myRegion: the USA region selected by the user
%sName: the name(s) of the states within the selected region
%sLat: the latitude(s) of the state(s) within the selected region
%sLon: the longitude(s) of the states(s) within the selected region
%myFuels: a list of the names of fuels chosen by the user
%myNum: the numbers associated only with the region and fuels chosen
%
%rawData: raw data table, as a cell-array, unfiltered, from original file
%
%by David Cicotte

%Extract the 11 fuel choices possible before deleting rows 1 and 2
fuelChoices = rawData(2,7:17);
rawData(1:2,:) = [];

%User selects region from list using listdlg() after regions are unique
regionChoices = unique(rawData(:,6));
regionSelect = listdlg('PromptString','Select a Region:','ListString',...
    regionChoices,'SelectionMode','single');
myRegion = regionChoices{regionSelect};

%Filter state names, longitude, and latitude from selected region
sName = rawData(strcmp(rawData(:,6),myRegion) == 1, 1);
sLat = cell2mat(rawData(strcmp(rawData(:,6),myRegion) == 1, 4));
sLon = cell2mat(rawData(strcmp(rawData(:,6),myRegion) == 1, 5));
regionRows = strcmp(rawData(:,6),myRegion);%get rows where region name is

%Delete columns 1-6
rawData(:,1:6) = [];

%Offer possible fuel choices using listdlg() not unique
fuelSelect = listdlg('PromptString','Select a Fuel type:','ListString',...
    fuelChoices);

%Slice names of fuels chosen
myFuels = fuelChoices(fuelSelect);

%Slice the rows of numerical values for region with cols from fuels chosen
myNum = cell2mat(rawData(regionRows, fuelSelect));

% [~,~,rawData] = xlsread('2009_RenewableEnergy_v02');
% [myRegion, sName, sLat, sLon, myFuels, myNum] = energySort (rawData);

```