THIS IS WHERE YOUR TITLE SHOULD GO. BIG FONT, USUALLY BOLD. MAKE SURE IT IS DESCRIPTIVE.

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ENGI 1331 – Project 1 – Putkey, Castell group

Background/Problem State/Purpose : with the solar data sheet variables provided we have created a script that will determine the best area within a country to create a solar farm, it will also produce the necessary number of panels needed as well as projected cost based on average cost of KWh_yr.

Method/Algorithm

1) The data is pulled into matlab with xlsread
2) The data is separated by column
3) The user is asked to imput a country in which the script finds the row locations of the country
4) From those rows the max solar radiation is determined
5) The user is asked to input a desired amount of energy output
6) From that number in TW_h/yr, the script converts it to KW_h/yr
7) The KW_h/yr is divided by the max capacity for solar panels producing the number of panels needed
8) From that number the cost is determined by a rate of 30 cents per KW_h
9) The final output displays the are, number of panels, the total cost of panels, and the country it is to be placed in

Test Cases

1) Test case 1
   a. The country entered is Bulgaria
   b. the TW_h/yr entered is 19.1

2) Test case 2
   a. The country entered is Austr1alia
   b. The TW_h/yr entered is 200000

3) Test case 3
   a. the country entered is Austria
   b. the TW_h/yr entered is 4

Results

1) Test case 1
   a. the best location for your solar farm is a class 5 area of, requiring 5232877 panels at a cost of $2091450000000 in 'Bulgaria‘

2) Test case 2
   a. the amount of energy desired exceeds realistic output, please restart program')

3) Test case 3
   a. the best location for your solar farm is a class 2 area of, requiring 2739726 panels at a cost of $438000000000 in 'Austria'

Conclusions and Limitations

The conditionals originally input in the script were rendered useless as the entire energy output globaly requires around 20000 TWH annually, so when an input is larger than that the program will ask for you to restart the program.

The conditionals were not based off of 1000 TW_h
More work needs to be done for the conditionals to function properly