**Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** Assignment #: \_\_\_\_\_

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| **Summary of Problem Statement Problem # \_\_\_\_\_\_\_\_\_**  Based on the solar resource data sheet provided, we will devise a program in MATLAB that allows the user to input a desired TWh/yr total output in which the program will pinpoint the the amount of solar panels needed and the locations to install them in order to maximize solar economic efficiency world wide. The output should result in the following information: location(s) of installation, amount of solar panels required per location, total cost of solar panels required for implementation, cost per year to sustain the TWh/Yr output. | | |
| **Known / Input**  (C#) – class 1-10 solar insulfation  Co\_pv – cost of solar panels  Co\_kw – cost per KW solar  Ou – maximum output of solar panels  Ou\_D – output desired  KW\_MW\_conv - .001 MW/ 1 KW | **Unknown / Output**  Co\_I - cost of implementation  Num\_pv - solar panels req  Location(#) – location(s) required  Co\_PV\_T – total cost of panels  Co\_loc – cost of PV per location  Num\_loc – number of panels req. per location | **Assumptions**  No geological barriers in solar panel installation  Data is accurate  (possibly) no hemispherical barrier for energy transfer/ no loss of power to and  F |
| **Other Variables**  E\_B – battery efficiency  C\_F – capacity factor  Ou\_D\_E – efficiency of 1 m^2 pv cell based on location |  | From the central power grid |
|  | | |
| **Algorithm** | | |
| **Test Cases** | | |
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