Unit 3 Assignment

Grading Information: This Program is **due** on **Date Specified**.

Comments are **REQUIRED**; flow charts and pseudocode are **NOT REQUIRED**.

Directions	**Points**
The file must be called <**LastInitialFirstInitialUnit3.java**> *Proper coding conventions required the first letter of the class start with a capital letter and the first letter of each additional word start with a capital letter*. Only submit the .**java** file needed to make the program run. Do not submit the .**class** file or any other file.	5%
Style Components Include properly formatted prologue, comments, indenting, and other style elements as shown in Chapter 2 starting page 64 and Appendix 5 page 881-892.	5%
Topics covered in chapter Topics with * are covered in this assignment. Ensure you use every item listed below in your completed assignment. *Comments and Readability *The Class Heading *The main Method's Heading *Braces *System.out.println *Compilation and Execution *Identifiers *Variables *Assignment Statements *Initialization Statements *Numeric Data Types – int, long, float, double *Constants *Arithmetic Operators *Expression Evaluation and Operator Precedence Tracing *Type Casting *Char Type and Escape Sequences *Primitive Variables Versus Reference Variables *Strings *Input – the Scanner Class *File Input	

Basic Requirements Create a program that reads solar energy production data for the last week from a file, gets input for the cost of the system, and outputs production, savings, days to recoup cost and years to recoup cost. Don't worry about being a solar engineer, just use the techniques covered in this chapter. No prior knowledge is required of solar energy. Refer to pages 102-103 for how to read from a file.	

LiFiUnit3.java - Main Method
 	
Program should read in a file called "energyProduced.txt". The contents of the file are at the **bottom** of the requirements. The file should be a normal text file with no special formatting. The file should be in the same directory as the program.
 	
• Use a **named constant** for the cost of electricity at .085.
• Read in all data from the file. (refer to pages 102-103)
  ○ Get input from the file and store production values for each in **doubles**.
• Get input for "Total system cost" in dollars and stored as an **integer**. Get input on **same line** as prompt, see example.
• Output the following items per the sample below:
  • Total Energy Produced in one week.
  • Total Savings for one week (total production times cost for electricity)
  • Total Savings per day (the average)
  • Days to recoup the system cost (truncated)
  ○ Use typecasting to integer to get rounded value
  • Years to recoup the system cost (truncated)
  ○ Use typecasting to integer to get rounded value
  • Ensure columns are aligned, use escape characters to align columns.
	80%

Sample output is provided below. Be sure to mimic the layout exactly. Values will vary based on system cost entered.	10%
NOTE: Complete your activity and submit in the appropriate submission area.	
Total Percentage	100%

Sample
`Your output will vary based on system cost entered. See samples below.`
 	
`Sample below using 36000 as input:`	

```
Total system cost (dollars):            36000
Total Energy Produced in one week:      498.4 kWh
Total Savings for one week:             42.364000000000004
Savings per day:                        6.0520000000000005
Days to recoup cost (truncated):        5948
Years to recoup cost (truncated):       16

Sample below using 28000 as input.

Total system cost (dollars):            28000
Total Energy Produced in one week:      498.4 kWh
Total Savings for one week:             42.364000000000004
Savings per day:                        6.0520000000000005
Days to recoup cost (truncated):        4626
Years to recoup cost (truncated):       12

Sample below using 15000 as input.

Total system cost (dollars):            15000
Total Energy Produced in one week:      498.4 kWh
Total Savings for one week:             42.364000000000004
Savings per day:                        6.0520000000000005
Days to recoup cost (truncated):        2478
Years to recoup cost (truncated):       6

Sample below using 5000 as input

Total system cost (dollars):            5000
Total Energy Produced in one week:      498.4 kWh
Total Savings for one week:             42.364000000000004
Savings per day:                        6.0520000000000005
Days to recoup cost (truncated):        826
Years to recoup cost (truncated):       2
```

Data for Text File (name it energyProduced.txt)

```
70.3
72.2
71.6
70.5
69.0
72.2
72.6
```