

COMPUTING YOUR ELECTRIC BILL

Programming Assignment 2 (15 points)

Math 248 Computers and Numerical Algorithms
Fall 2008–Pruett

DATE ASSIGNED: Tuesday, 9 September, 2008

DATE DUE: Wednesday, 17 September, 2008

BACKGROUND: Harrisonburg Electric Commission (HEC) has the following monthly rate structure for residential customers:

- Each account is charged a basic fee of \$5.00 regardless of how many kilowatt hours (KWH) of electricity are used.
- In addition, in summer months (June-Sept.), each customer is charged 6.17 *cents* per KWH for the first 800 KWH and 6.89 *cents* per KWH for each KWH in excess of 800.
- On the other hand, in non-summer months, each customer is charged 6.17 *cents* per KWH for the first 800 KWH, and 4.85 *cents* per KWH for each KWH in excess of 800.

ASSIGNMENT: This assignment is to be completed individually. Write a computer program that computes a monthly electric bill in dollars, given the month of the year as an integer (1-12) and the meter readings (KWH) at the beginning and end of the month.

CONSIDERATIONS: How many input (output) variables are needed? What type(s) should they be?

Before you start coding, write out the basic decision structure in pseudocode. Turn in your pseudocode (or flowchart) by Thursday, September 11. Be sure your output is intelligible to the average customer. Turn in the source code and sample output by the due date *for the input data I provide*.

This program is to be accomplished solo. As always, you are allowed to discuss programming issues with other students, but the actual coding of your program should be accomplished individually, you should document in the preamble any assistance you receive, and your program should be unique.