Program Information

- Open a user defined input file and verify that it successfully opened

- Read from the input file:
  - A header line which is ignored
  - The package type
  - The package length
  - The package width
  - The package height
  - The package weight

- Based on information read, determine a shipping rate for the package
  - Shipping rate depends on
    - Base cost for the package type
    - A Overall length scale factor
    - A weight factor

Program Information Cont.

Cost of shipping a package

- Cost = packageBaseRate*lengthFactor*weightFactor
  - packageBaseRate is one of three types
    - parcel – base rate is $2.25
    - media – base rate is $3.50
    - bulk – base rate is $4.75
  - lengthFactor is based on the sum of the package dimensions
    - For a total length < 40 inches, the adjustment factor is 1.00
    - For a total length >= 40 and < 60 inches, the adjustment factor is 2.50
    - For a total length >= 60 inches, the adjustment factor is 3.75

  - weightFactor is based on the weight of the package
    - For a weight < 10 pounds, the adjustment factor is 1.00
    - For a weight >= 10 and < 25 pounds, the adjustment factor is 3.00
    - For a weight >=25 pounds, the adjustment factor is 4.50

Program Information Cont.

- Output Information – output is to the terminal
  - Row of 50 dashes '-'. Use string(50,'-') in an output statement
  - Output package attributes
    - Package type, total length and weight
    - Use left justification in a field width of 30 for the identifying phrases
    - Use a '.' with setfill to create the periods shown.
  - Row of 50 dashes '-'.
  - Output the package rate factors
    - Package base rate, Length Factor and Weight Factor
    - Use left justification in a field width of 30 for the identifying phrases
    - Use a '.' with setfill to create the periods shown.
  - Row of 50 dashes '-'.
  - The cost of mailing the package

Input File Format

- First line of the input file is a header line that needs to be bypassed/ignored
- The second line is the package type – parcel, media or bulk (all lower case)

- Next three lines are the package dimensions – length, width and height (in that order)
- Last line is the weight in pounds

- Length, width, height and weight are all integer values.

Input File Continued

- Input file looks like the following – <u>except the comments are not present</u>

```
Project 07 input file // line 1 is the header info line
parcel                // line 2 is the package type (string)
10                    // line 3 is the package length (int)
20                    // line 4 is the package width (int)
30                    // line 5 is the package height (int)
25                    // line 6 is the package weight (int)
```

Project Help

- *Your goal should be to match the input and output style/format of your program to that produced by the provided sample solution.*

- *Open the user specified input file and verify that it successfully opened. If it did not open successfully, print out error message and terminate*

- *Calculate the cost of shipping the package based on the base rate, length factor and weight factor*

Project Help Continued

- ***After reading data from the input file, test the file stream again to verify that the data was successfully opened.***

- ***Tests to perform after reading data are on the next page***
- **Can use setfill to change the fill character for unused spaces when setw is used**

  cout << setfill('.') << setw(10) << left << "Hello" << endl;

  Output: **Hello.....**
- **Use cout << setfill(' ') to change fill character back to a space**

Project Help Continued

- use if-then and if-then-else-if statements.
  - If-then statement is used to test the file stream status
  - If-then-else-if statements are used
    - To determine the package type
    - To determine the length factor
    - To determine the weight factor
  - If-then statements are used to test for
    - Invalid character in a package parameter
    - A package parameter less than 0.
      - Use one if statement that tests all four parameters at one time
      - Just determine if one is negative – do not need to know which one is negative