1 Objective

The purpose of this assignment is to test your familiarity with Java I/O and selection statements. This program doesn’t require and IDE and is meant to be compiled on the terminal.

Please email your file "Shipping.java" to jayarama@cs.fsu.edu.

2 The Backstory

Amazon.com wants to try out its new ‘Delivery by Drone’ service and has recruited you to write a Java console application to calculate the shipping cost. They are going to charge the customer based on various criteria, as shown below:

<table>
<thead>
<tr>
<th>Weight (in kg)</th>
<th>Rate per 50 miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 or less</td>
<td>$5.10</td>
</tr>
<tr>
<td>Over 2 Kg, up through 6 Kg</td>
<td>$10.18</td>
</tr>
<tr>
<td>Over 6 Kg, up through 10 Kg</td>
<td>$22.43</td>
</tr>
<tr>
<td>Over 10 Kg, up through 20 Kg</td>
<td>$40.60</td>
</tr>
</tbody>
</table>

Amazon Prime members get a 10% discount.

3 Specifications

- First, ask for the weight of the package (in kilograms). The user can enter this as a decimal number, so use type double. Values of 0 or less are invalid (i.e. a package has to weigh something). Do not accept weights of more than 20 Kg either, as this is the maximum weight the company will ship).

- If the user enters an invalid choice, print an appropriate error message and abort the program. (See sample outputs for error messages).

- Now ask the user to enter the distance to ship the package (in miles). This will be entered as an integer. 0 miles or less is considered invalid (must be a positive distance to ship). Also, do not accept distances of more than 3000 miles – consider 3000 miles to be the company’s maximum shipping distance.

- If the user enters an invalid choice, print an appropriate error message and abort the program. (See sample outputs for error messages).

- For a valid weight and distance, compute the shipping charges according to the chart above, noting that "rate per 50 miles shipped" means that anything up to 50 miles is at the 50 mile rate, anything above 50 up to 100 miles is at the 100 mile rate, and so on.

- Ask if the user is an Amazon Prime member. If the user says Yes, give them a 10% discount.

- Print out the following results:
  - The package weight (default format), in kilograms.
The shipping rate for this package, to 2 decimal places, (money format).
The number of miles chosen.
The calculated shipping cost, to 2 decimal places (money format).

- See the Sample Runs below for expected output messages and numerical output formats.
- Also note: The System library has a method called exit(), which will cause a program to terminate immediately. It requires a parameter – usually it is sufficient to just pass in the value 0.

4  Sample Runs

Sample Run 1
Welcome to Amazon Shipping Calculator

Please enter the weight of the package, in Kg: 19.4
Please enter the distance to be shipped (in miles): 2318

Are you an Amazon Prime member? (Yes/No): No

Package weight = 19.4 Kg
Shipping rate = $40.60 per 50 miles
Number of miles = 2318

Total shipping charges = $ 1908.20

Goodbye

Sample Run 2
Welcome to Amazon Shipping Calculator

Please enter the weight of the package, in Kg: 8.4
Please enter the distance to be shipped (in miles): 134

Are you an Amazon Prime member? (Yes/No): Yes

Package weight = 8.4 Kg
Shipping rate = $22.43 per 50 miles
Number of miles = 134

Total shipping charges = $ 60.56

Goodbye

Sample Run 3 (error case)
Welcome to Amazon Shipping Calculator

Please enter the weight of the package, in Kg: -5
Invalid package weight. Program aborted

Sample Run 4 (error case)
Welcome to Amazon Shipping Calculator

Please enter the weight of the package, in Kg: 21.8
Cannot accept packages over 20 Kg. Program aborted
Sample Run 5 (error case)
Welcome to Amazon Shipping Calculator
Please enter the weight of the package, in Kg: 17.4
Please enter the distance to be shipped (in miles): -10
Shipping distance must be positive. Program aborted

Sample Run 6 (error case)
Welcome to Amazon Shipping Calculator
Please enter the weight of the package, in Kg: 14.6
Please enter the distance to be shipped (in miles): 3010
Cannot ship more than 3000 miles. Program aborted.