Lab Assignment 2: Volume and Surface Area

Requirements:
- Define and initialize all variables. (Define Pi as a constant.)
- PROLOGUE COMMENTS
- Prompt the user for the following values:
  - Rectangular Prism
    - Length
    - Width
    - Height
  - Sphere
    - Radius
- Validate the input: all values must be strictly greater than zero
  - If the user entered invalid input, print an error message using cerr and quit.
- Compute:
  - Surface area of the rectangular prism
  - Volume of the rectangular prism
  - Surface Area of the Sphere
  - Volume of the Sphere
- Output:
  - Print the dimensions, surface area, and volume, for each shape.
  - Print a summary which specifies the object with the greater surface area and volume.
    - NOTE: These may not be the same object!
  - LABEL ALL OUTPUT

Formulae & Values:

\[ \pi = 3.14 \]

<table>
<thead>
<tr>
<th>Shape</th>
<th>Surface Area</th>
<th>Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sphere</td>
<td>( 4 \pi r^2 )</td>
<td>( \frac{4}{3} \pi r^3 )</td>
</tr>
<tr>
<td>Rectangular Prism</td>
<td>( 2 \times \left[ (L \times W) + (W \times H) + (H \times L) \right] )</td>
<td>( L \times W \times H )</td>
</tr>
</tbody>
</table>