

Check for Mistakes in this Word Problem: scale-image

Directions: Write a function which takes an image and a string, representing what to scale the image by. The function should return a smaller image if the string is 'smaller' and a bigger image if the string is 'bigger'.

Contract and Purpose Statement

Every contract has three parts ...

<code>;</code>	<code>scale-image</code>	<code>:</code>	<code>image string</code>	<code>→</code>	<code>image</code>
	<i>function name</i>		<i>domain</i>		<i>range</i>

<code>;</code>	<code>Make the image bigger or smaller, depending on the given string</code>
	<i>what does the function do?</i>

Examples

Write some examples, then circle and label what changes ...

<code>(EXAMPLE(</code>	<code>scale-image</code>	<code>(circle 5 "solid" "red")</code>	<code>"bigger")</code>
	<i>function name</i>	<i>input(s)</i>	

<code>(circle 10 "solid" "red")</code>	<code>)</code>
<i>what the function produces</i>	

<code>(EXAMPLE(</code>	<code>scale-triangle</code>	<code>(triangle 20 "solid" "blue")</code>	<code>"smaller")</code>
	<i>function name</i>	<i>input(s)</i>	

<code>(triangle 10 "solid" "blue")</code>	<code>)</code>
<i>what the function produces</i>	

Definition

Write the definition, giving variable names to all your input values ...

<code>(define(</code>	<code>scale-image</code>	<code>original-image scale-factor)</code>
	<i>function name</i>	<i>variables</i>

<code>(cond</code>	
--------------------	-------

<code>[(string=? scale-factor "bigger")</code>	<code>(scale 2 original-image)</code>	<code>]</code>
<code>[(string=? scale-factor "smaller")</code>	<code>(scale 0.5 original-image)</code>	<code>]</code>
<code>[else</code>	<code>original-image</code>	<code>]])</code>