Practice exercises for dictionaries and images

Help Center

Solve each of the practice exercises below. Each problem includes two CodeSkulptor links; one for a template that you should use as a starting point for your solution and our solution to the exercise.

1. Create a dictionary `day_to_number` that converts the days of the week `"Sunday"`, `"Monday"`, … into the numbers `0, 1, …`, respectively.

   Day to number template
   Day to number solution
   Day to number (Checker)

2. Create dictionary for `name_lookup` that, when you lookup the keys `"Joe"`, `"Scott"`, `"John"`, and `"Stephen"`, you get the values `"Warren"`, `"Rixner"`, `"Greiner"`, and `"Wong"`, respectively.

   Name lookup template
   Name lookup solution
   Name lookup (Checker)

3. Debug the program template below so that the resulting program draws the supplied image on the canvas.

   Debug image template
   Debug image solution
   Debug image (Checker)

4. Load this image of an asteroid, and draw the image centered at the last mouse click. Prior to any mouse clicks, the image should be drawn in the middle of the canvas. The image size is 95×93 pixels.

   Image click template
   Image click solution
   Image click (Checker)

5. **Challenge:** Find an image of your choosing, and upload it to an image sharing site such as imgur.com. Add a direct link to the image to a CodeSkulptor program and draw the image on the canvas. For this problem, we will not provide a template. However, we note that common problems in this process include:

   - Having the image URL point to a webpage instead of an image,
   - Choosing an image sharing site that has restrictions on the number of downloads,
   - Using `get_width()` and `get_height()` to compute the image size before the image has loaded. These calls return an image size of zero which results in an error in `draw_image`. To fix this error, you should either hard code the image size or use an `if` statement prevent the call to `draw_image` until the image sizes are not zero (indicating the image has loaded).

   One recommendation for testing for whether your image loading code is working correctly is to email the CodeSkulptor URL for your program to another computer and test whether the image load works on the new computer. Web browsers often cache images locally which may cause your program to run on the computer where the code was developed, but not work on other machines. This test is highly recommend if you decide to use images in Memory.

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