Things to Know (Info) and Errata

Introduction to Computing and Programming in Python, A Multimedia Approach**,** Second Edition

Chapter 4

Error	Pg 76	In the first line of the first full paragraph, the reference to square bracket stuff should be [0, 1, 2] (the result in the example) not [0, 3] (the values in the range function.
Info	Pg 76	At the bottom of the page, the three lines of code showing nested loops using the range function are a good place to start as you start writing your own nested loop programs.
Error	Pg 77	The notation used on Figure 4.1 is not accurate mathematically. The upper right coordinates should read (width-1,0) which is (221,0) in this example. Similarly, the lower left should be (0, height-1) which is (0, 293) and the lower right should be (width-1, height-1) which is (221,293).
Info	Pg 77	Program 19 is an alternative way to write the code of Program 14 (Chapter 3, pg 67) – it uses 2 loops to traverse in the x and y directions of the picture instead of just the single "line" of pixels. Because it is a different program, it is suggested that you call the program something similar but different to not confuse between the two (and you can't have 2 functions with the same name in your Chapter4.py file). The two loops are known as nested loops. A suggested name: lightenNested. Notice that this nested loop example has x in the outer loop and y in the inner loop. This causes a column of pixels to be traversed for each value of x (as it ranges from 0 to width-1).
Error	Pg 78	In the top line, it should read "moving down the first column" (not row).
Error	Pg 78	In step 9, it says that y continues until it becomes the height of the picture – to be clear, y will range from 0 to height – 1, and for each value of y, the pixel's color will be set. After y becomes equal to height - 1, the last pixel 's color is set in that column and the loop ends. The x loop takes on its next value and the y loop will move between 0 and height – 1 again. The same is true for step 11.
Error	Pg 78	In the last paragraph, the first two sentences contradict. The second sentence is correct – x ranges from 0 to mirrorPoint-1 (just before the mirrorPoint). In the second line of the paragraph, y ranges from 0 to height-1.
Info	Pg 79	Notice that the y loop is now the outside loop and the x loop is the inside loop. This causes the left half of a row of pixels to be traversed for each value of y (as it ranges from 0 to height-1). Notice also that the variable width is calculated outside of the nested loops so that its value can just be used in the 7th line of the function. Otherwise, getWidth would be called each time through the loops.

Mark Guzdial 4/16/14 10:31 PM
Comment [1]:

These errata and informational notes were identified at the United States Military Academy, West Point, NY. Any corrections should be forwarded to the IT105 (Introduction to Computing and Information Technology) Course Director. (Last updated: 12 Aug 2013)

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Error	Pg 79	In the last paragraph, third line, y goes from 0 to height-1. On the last line, it should read "copy the color from another half row of pixels" (not column).
Info	Pg 81	In the second sentence of the bottom paragraph, it says that the code to fix the temple in figure 4.6 is "below" but it is actually at the top of page 84 as Program 23.
Info	Pg 84	Both "Common Bugs" have good information –check them out.
Info	Pg 85	In this version of mirrorTemple (which could be called mirrorTempleWithPrints to distinguish it from mirrorTemple on pg 84), notice the commas between parts of the expression. These are used to concatenate (put together) the different parts, one after another.
Error	Pg 85	In the last paragraph, y goes from 27 to 96 (not 97) and x goes from 13 to 275 (not 276) based on the ranges used in the function above the paragraph.
Info	Pg 86	In the third paragraph, you may not be working with a MEDIASOURCES directory – this is a location on the Georgia Tech file system (the text is written by two Georgia Tech faculty members). Just make sure the pictures you are using and the .py files that you are creating are in the same folder or that you are managing your images in their own folder. Ask your instructor if you have any questions about file management.
Error	Pg 86	In the third paragraph, a letter-size piece of paper is 8.5 x 11 (not 9 x 11.5) – the paper-sized file should therefore be 65inx9in.jpg. (NOTE: In IT105, we will not be using this file.)
Info	Pg 86	Note on the phrase "as close as we can" in the top paragraph in section 4.3.1: Because computers are sequential in nature, doing two things at the same time is really an "as close as you can get" event, one thing immediately followed by another. In this instance, the author wants to make sure that the target variables are incremented each time in the loop. The source variables are incremented as part of the two "for" loop structures.
Info	Pg 86, et al.	In the third line of Program 24, there should be spaces around the "=": barbf = makePicture("barbara.jpg") to match the format of the rest of the program but it does not affect the way the code runs. The same comment applies to Program 25 (Pg 88), Program 26 (Pg 89), Program 27 (Pg 90), Program 28 (Pg 91), Program 32 (pg 98), Program 33 (Page 100), Program 34 (Pg 101), and Program 35 (Pg 102). This shows how copying a file and modifying it can promulgate the same misspelling, error, or syntax. Make sure the original program is correct!

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<table>
<tr><td>Error/Info</td><td>Pg 89-91</td><td>Since the pixels for Barabara's face go from (45, 25) to (200, 200), in order to handle pixels when x is 200 and/or y is 200, the range would have to end with 201. Otherwise, the last value for x or y is 199. This issue applies to the entire discussion on cropping.</td></tr>
<tr><td>Info</td><td>Pg 92</td><td>The Computer Science Idea – This concept is only important if a picture object is set equal to another picture object. If the second one is changed, the first object is also changed because they point to the same place in memory (the picture object) and not to different picture objects. Read pages 93-94 – the reference discussion about pixels applies to pictures, too.</td></tr>
<tr><td>Info</td><td>Pg 93</td><td>In the second line of the second set of command line examples, the JES built-in function, getPixelAt, is used to get a pixel from a picture at an (x,y) location. The text does not explain this function but you can in the JES menu, select JES Functions→ Pictures and scroll down to see the documentation.</td></tr>
<tr><td>Error</td><td>Pg 96</td><td>Under How It Works, the 4th bullet – target is now starting at 200 (not 300).</td></tr>
<tr><td>Error</td><td>Pg 99</td><td>Under How It Works, the end of the second paragraph talks about going across the target array but the target array in the figure below it does not do this. It should have 1, 3, and 5 filled in across the second row of the array (rather than the 1, 2 down the first column) of the array:

<table><tr><td></td><td></td><td></td></tr><tr><td>1</td><td>3</td><td>5</td></tr></table>
In the second set of the array diagrams at the bottom of the page, the rows of pixels are reversed. It should look like:

<table><tr><td>2</td><td>4</td><td>6</td></tr><tr><td>1</td><td>3</td><td>5</td></tr></table></td></tr>
<tr><td>Error/Info</td><td>Pg 102</td><td>The discussion at the top of the page (and how it is used in Program 35) does not address that the range ends at 1 less than the calculation used as the end of the range for x and for y.</td></tr>
<tr><td>Info</td><td>Pg 103 & 105</td><td>The discussions for makeEmptyPicture at the top of pg 103 and in the summary on pg 105 do not show that the function has an optional third parameter of color. The background of the "empty picture" does not have to be just white. See the JES Menu explanation at JES Functions→ Pictures and scroll down to makeEmptyPicture.</td></tr>
</table>

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