Errata for *Python Playground* (updated to 6th printing)

**Page 19:** The first sentence that reads:
Let’s begin by considering that the equation used to describe a circle with radius $r$, centered at the origin of a two-dimensional plane, is.
should now read:
Let’s begin by considering that the equation used to describe a circle with radius $r$, centered at the origin of a two-dimensional plane, is $x^2 + y^2 = r^2$.

and the formula which reads:

$$y = b + r \cos(\theta)$$

should now read:

$$y = b + r \sin(\theta)$$

**Page 20:** In Figure 2-3, the angle theta ($\theta$) should be between the x-axis and the segment $C$, rather than the segment $P$.

and the formula for $y$ that reads:

$$y = R\left( (1 - k) \sin(\theta) + lk \sin\left(\frac{1 - k}{k} \theta\right) \right)$$

should now read:

$$y = R\left( (1 - k) \sin(\theta) - lk \sin\left(\frac{1 - k}{k} \theta\right) \right)$$

**Page 47:** In the third line of the last code block, `argumentss` should now read `arguments`.

**Page 58:** In the fourth sentence of the second paragraph, “step 1” should now read “step 2”.

**Page 61:** The penultimate line of the final code block that reads:
>>> print d
should now read:
>>> print(d)

Page 62: The line labeled with number ball (4) that reads:
\[
\text{avg} = 0.996 \times 0.5 \times (\text{buf}[0] + \text{buf}[1])
\]
should now read:
\[
\text{avg} = 0.995 \times 0.5 \times (\text{buf}[0] + \text{buf}[1])
\]

Page 64: In the second line of the code block, Karplus String should now read
Karplus-Strong

Page 65: In the third full paragraph, -play should now read --play

Page 67: In the eighth line of the code block, Karplus String should now read
Karplus-Strong

Page 68: In the second code block, -display should now read --display

Page 69: In the code block, the line that reads:

$ python ks.py -play

should now read:

$ python3 ks.py --play

and the first sentence of step 3 that reads:
Add a --piano command line option to the project.

should now read:

Modify the --piano command line option for the project.

Page 73: The penultimate sentence on the page that reads:
If you draw a line from the origin to a point on this circle, it becomes a unit vector that depends on the angle $A$. 
should now read:
If you draw a line from the origin to a point on this circle, it becomes a unit vector that depends on the angle $t$.

**Page 78:** On both the third and seventh lines of the code block, `distMatrix` should now read `self.distMatrix` and on the eleventh line of the code block, the line:
```
vel += vel2;
```
should now read:
```
vel += vel2
```

**Page 83:** The line in the `applyRules(self)` function that reads:
```
vel += vel2;
```
should now read:
```
vel += vel2
```

**Page 124:** The first sentence of the first paragraph which currently reads:
At (1), you perform a sanity check to ensure that the depth map and the image have the same dimensions.
should now read:
At (1), you convert the depth map into a single channel image if needed.

and in the first sentence of the second paragraph, `Image.Load()` should now read `Image.load()`

**Page 128:** In the final code block, `-tile` should now read `--tile`

**Page 138:** The last sentence before the equation that reads:
See how the matrix multiplication translates a point $(x, y, z, 1.0)$ to $(x + tx, y + ty, z + tz, 1.0)$.
should now use subscripts, to read:
See how the matrix multiplication translates a point $(x, y, z, 1.0)$ to $(x + t_x, y + t_y, z + t_z, 1.0)$. 
Page 150: We deleted the line labeled with number ball (1), and moved the number ball (1) label to the line: in vec2 vTexCoord;

and the sentence following the code block, that currently reads:
Starting at (1), you define inputs to the fragment shader—the same color and texture coordinate variables you set as output in the vertex shader.
should now read:
Starting at (1), you define inputs to the fragment shader—the same texture coordinate variable you set as output in the vertex shader.

Page 156: The code block that currently reads:
$python simpleglfw.py
should now read:
$python3 simpleglfw.py

Page 163: The second equation, which currently reads:
\[ V = (\cos(\theta)\sin(\phi),\sin(\theta)\sin(\phi),\cos(\phi)) \]
should now read:
\[ V = (\cos(\phi)\sin(\theta),\sin(\phi)\sin(\theta),\cos(\theta)) \]

Page 168: In the sentence following the first code block, −1 should not be a subscript.

Page 171: The line labeled with number ball (1) in the code block that reads:
vec4 texCol = texture2D(uSampler, vec2(vTexCoord.s, vTexCoord.t));
should now read:
vec4 texCol = texture(uSampler, vec2(vTexCoord.s, vTexCoord.t));

Page 186: In the third sentence, “0.1 seconds” should now read “0.01 seconds”