Assignment: Unit 7A

Outcomes addressed in this activity:

- Use a pre-written function in Alice.
- Write a function.
- Understand the similarities, differences, and relationships of methods and functions.

Course outcome(s) practiced in this unit:

GEL-1.1: Demonstrate college-level communication through the composition of original materials in Standard American English.

IT111-4: Recognize the programming constructs of functions.

Instructions:

Bouncing Ball

In this assignment you are going to create a world using objects from the Sports category (Any type of ball and any type of net from the object gallery).

In Part B you will complete an animation that performs the following: 1) bounce the ball over the net, and 2) roll the ball 3 meters along the ground. You will use a combination of methods, built-in functions, and functions that you write yourself to complete this task. Before you begin to create the world and animation, write a 1-2 page expository paper in which you discuss your approach to this animation. What existing methods are available that you can use? What pre-built functions are available that might work in this animation? What functions will you need to write yourself, and why will these functions be needed?
Requirements:

1. Write a 1-2 page expository paper describing the approach you will take to create the required animation. Discuss existing methods and pre-built functions you will use, and discuss functions you will need to write yourself. Be sure to cite your textbook and other library sources to support what you say about your approach to creating animations.

2. Assignment should follow the conventions of Standard American English (correct spelling, grammar, and punctuation) and should be free of APA formatting errors. Points deducted from the grade for each writing, spelling, grammar, or APA errors are at your instructor’s discretion.

3. Your paper should be double-spaced, using Arial, Courier, or Times New Roman 12 point font.

4. Be sure to include a title and a references page.

5. Viewpoint and purpose should be clearly established and sustained, and the paper should be well-ordered, logical and unified, as well as original and insightful.

6. In addition to fulfilling the specifics of the assignment, APA citation style should be followed. Please be sure to download the file “Writing Center Resources”, which is in Doc Sharing, to assist you in meeting APA expectations.

Assignment grading rubric: 20 points

<table>
<thead>
<tr>
<th>Project Requirements/Criterion</th>
<th>Points possible</th>
<th>Points earned by student</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1 Student writes a 1-2 page expository paper discussing the approach to be taken in creating the two required animations. Discussion of existing methods, prebuilt functions and functions that will need to be written is included.</td>
<td>0-15</td>
<td></td>
</tr>
<tr>
<td>#2 Viewpoint and purpose should be clearly established and sustained, and the paper should be well-ordered, logical and unified, as well as original and insightful.</td>
<td>0-5</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>20</td>
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</tbody>
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Points deducted for spelling, grammar, and/or APA errors.

Adjusted total points
Assignment: Unit 7B

Outcomes addressed in this activity:

- Use a pre-written function in Alice.
- Write a function.
- Understand the similarities, differences, and relationships of methods and functions.

Course outcome(s) practiced in this unit:

GEL-1.1: Demonstrate college-level communication through the composition of original materials in Standard American English.

IT111-4: Recognize the programming constructs of functions.

Instructions:

Bouncing Ball
In this assignment you are going to create a world using objects from the Sports category (any ball and any net).

You will create an animation that performs the following: 1) bounce the ball over the net, and 2) roll the ball 3 meters along the ground. You will use a combination of methods, built-in functions, and functions that you write yourself to complete this task. Before you begin to create the world and animation, write a 1-2 page paper in which you discuss your approach to each of the animations. What existing methods are available that you can use? What pre-built functions are available that might work in this movie? What functions will you need to write yourself, and why will these functions be needed?
Assignment Grading Rubric

Course: IT111 Unit: 07 Points: 60

Requirements:
1. Create a world, and place any type of ball and any type of net in this world (Use the sports category in the object gallery).
2. Use built-in methods in combination with a method that you write to cause the ball to bounce over the net.
3. Use a combination of methods, built-in functions, and functions that you write to cause the ball to roll 3 meters across the ground.

Assignment grading rubric: 40 points

<table>
<thead>
<tr>
<th>Project Requirements/Criterion</th>
<th>Points possible</th>
<th>Points earned by student</th>
</tr>
</thead>
</table>
| #1 Student creates an animation that causes a ball to bounce over a net (using a function).  
  - Student uses orient-to correctly.  
  - Student uses appropriate functions to return needed information to the program, then uses that information for the required action. | 0-10 | |
| #2 Student writes code (including a function) that causes the same ball to roll across the ground for a distance of 3 meters after it bounces over the net.  
  - Student uses "as seen by" correctly.  
  - Student writes a function to input # of revolutions ball should use.  
  - Student correctly combines forward movement with the # of revolutions. | 0-5 | 0-10 |
| TOTAL | 40 | |

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