Project 5

Due Oct 11, 2019 by 11:59pm   **Points** 100   **Submitting** a text entry box or a file upload
File Types txt   **Available** after Oct 2, 2019 at 12pm

In this project, you are asked to make a dodge-ball game with intelligent NPCs that are smart enough to dodge the balls from the player.

Basic requirements:

. A block of comments at the beginning of the program file or a README file to serve as the necessary initial documentation (anything you think the reader / grader should know).
. Use radians for angles, not degrees
. There must be a starting screen, giving instructions on how to play, etc.
. At least 3 NPCs are running across the canvas (from left to right). The y positions for the characters should all be different.
. The player character is at the bottom center of the canvas and can throw balls toward the opponents.

. The player can rotate left and right, and throw the ball based on its current angle.

. When the ball hits an NPC, the ball should change direction.
. When the ball touches a border, it disappears.
. You should have an indicator on the NPC on the number of times it has been hit.

. The NPCs must have some ability to dodge the balls and also avoid running into each other.
. If any NPC is hit with a ball 3 times, it gets removed from the game.
. Design the characters as anything you wish (eg. animals or something else). Be creative.
. If any NPC successfully moves to the right border, you lose.
. If all the NPC are removed, you win.

The above describes the minimal requirements. You may add additional features to make your game even more interesting. For example, you may add personality to the NPC characters such that some are more cautious, while some more aggressive.

Please upload your program as a text file when you are finished.

Grading: Grading of this exercise will be based on the following:

. Artistic and creative effort: 10%
. Ability of NPC to dodge balls: 20% (more points if you have a great NPC character)
. Documentation: 10%
. Completeness: 60%

If your program has syntax errors - the grade will be 0. This will be true for all future projects. 2 point penalty for each hour late on submission, with max 40 points per day late.

You may discuss among yourselves for this exercise. However, everyone must write his/her own program. You are allowed to exchange ideas, but NO PROGRAM SEGMENTS, PROCEDURES, FUNCTIONS MAY BE EXCHANGED OR COPIED from any source, other than from class notes.