M256 Computer Programming
Major Project #6: Bread and Cheese Game

Bread and Cheese Game (40 points total):

Setup: From the O: drive, copy the entire folder "*Bread and Cheese*" into your Canvas folder. This folder includes the file *BreadAndCheese.html* which you will edit, as well as various picture files that you will use.

The file *BreadAndCheese.html* includes classes for creating a bread object, a cheese object, and tomato objects. It also includes the basic skeleton of the bread and cheese game. You are tasked with adding features and enhancements to make this a fully-featured game

You must complete the following to receive a C on this project:
- Read through all of the code in *BreadAndCheese.html*. You do not necessarily need to understand what every single line of code is doing. Instead, you need to have a general idea of what each class represents. In other words, you should understand what each function is supposed to do, even if you don't understand exactly how it's doing it.
- There are a number of places in the file where it says "// ADD YOUR CODE HERE". Add code at all of these places (the comments describe what the code should do). After you complete this successfully, you should have a basic working game.
- New feature: keep score. Each time a tomato is hit, player gets 10 points. The point total should be displayed somewhere on the screen at all times.

The following minimum requirements must be met to receive a B on this project:
- All requirements listed above.
- When the game first starts, display an instruction screen. After the player presses enter, the game play starts. (Create a new game state to represent the instruction screen.)
- The player starts with 3 lives. When the player loses a life, the game immediately continues with the cheese starting again from its original location near the top of the screen (set in the constructor). The number of lives should be displayed on the screen while the game is being played.
- When the player has no lives remaining, the game is over. Display a game over screen that shows how many points the player had when they lost. Pressing enter restarts the game (recreate the bread/cheese/tomato objects, reset the score, etc.).
- Sound effects: Play a different sound effect for each of the following events: 1. Cheese hits tomato, 2. Cheese hits bread, and 3. Cheese hits bottom of the screen.

The following minimum requirements must be met to receive a A on this project:

- All requirements listed above.

- When the game first starts, display a splash/intro screen. This screen should be displayed for 3 seconds, and then automatically move on to the instruction screen which you implemented above. (You will need to use a timer object for this – refer to our timer exercise.)

- Add background music. The background music should play whenever the game is ongoing, and should not play whenever the game is not ongoing. For example, the background music should not play during the splash screen, instruction screen, or the game over screen.

- Add another level: when the user completes the initial level, they move on to level 2. Level 2 should be different from Level 1 in a meaningful way: for example, changing the speed of the cheese and/or bread, or changing the layout of the tomatoes.

- Any other enhancements to improve the game: for example, working out quirks in the movement engine (preventing "cheating"), adding multiple cheese objects at the same time, adding power-ups or other obstacles to the game, etc.