# CS 255 Computer Science II Spring, 2022

1. **Assignment #4**
2. **Value: 30 points**

This assignment builds on Assignment #3. Complete and submit Assignment #3 before you begin this assignment.

Add the following functions to your BoardGame class:

* A constructor method with no parameters. It should set game description to "TBA" and all the numeric member variables to 0
* A second constructor method with parameters that sets all 5 BoardGame member variables with initial values
* A class method with five parameters that will set the member variables. It behaves exactly like the constructor above
* A destructor method that simply outputs "BoardGame is destroyed"
* A class method that will update the price of a board game. It will have one parameter, a discount rate, that simply is multiplied by the price. If the rate is 0.9 for example, the new board game price would be 90% of what it was before. A rate of 1.25 would raise the board game price by 25%.
* A function outside of the class definition that will read data from a text file into an array of BoardGame objects by calling the set board game method described above. It should also update a count of the number of board games that were actually read in from the file. The file should be named "boardgames.txt" and should have 2 lines (1st line board game description, 2nd line four numbers separated by spaces) for each board game. Assume the data file will contain a maximum of 50 board games.
* A function outside of the class definition that will print all the board games. It should loop through all the board games by making a call to the object's print method.
* Modify the main driver function so that it calls the functions to read all the board game objects and then print them all to the screen. Make a call to the update price method and include necessary print statements to indicate that it worked.
* Update the UML diagram of the BoardGame class description that you created for Assignment #3. Note: The functions that read from the file and print the board games are outside of the class, so they will **not** be included in the UML diagram.

**FOR FULL CREDIT**, submit: (1) the source code (.cpp file) of your program with full comment headers at the top of the program and the two outside-of-class functions. Also, include at least one comment line associated with each class method, (2) a sample data file with at least 7 sample board games in it, and (3) a UML diagram of the updated class description (.doc or .pdf file).