**Changelogs for CS370 Project 2 Milestone**

**Please DO NOT PROVIDE THE SOLUTION CODE TO THE STUDENTS!**

1. **TreasureMaze.py**
   a. **No changes made.**
2. **GameExperience.py**
   a. The **predict()** method now has a check to make sure the **envstate** variable is a NumPy array. This was done to remove the "*retracing is expensive warning*" from TensorFlow.
   b. The **sample()** method was added to introduce random sampling so that the model would not overfit. This was introduced to work with CPU in Codio and help training in fewer epochs.
   c. The **get_data()** method was re-written to utilize this sample() method call to grab a sample, initialize inputs and targets, then compute the current and next Q-values.
3. **TreasureHuntGame_starterCode.py**
   a. Included additional messages to help clarify warnings and notes students may see while running the Jupyter Notebook file.
   b. Included clear headers for students to have a clearer understanding of the cells displayed in the Jupyter Notebook file.
   c. In the **Helper Function and Global Variables** section, included **epsilon, epsilon_min,** and **epsilon_decay,** to be used for gradual decay in epsilon over time during training, like how students would see in the **Cartpole** problem.
   d. Updated the **play_game()** method to include a safety cutoff so that it will not timeout or continue to run when win rate has been at 1.0.
   e. Updated the **completion_check()** method to better review over the final evaluation as there were hang-ups in Codio.
   f. Included a custom **train_step** function using **@tf.function** to hook onto its computation graph due to a "*retracing is expensive warning*" from TensorFlow.
   g. Added the **Pseudocode** for the assignment in a MARKDOWN block for students to have ease-of-reading and included a #START_HERE comment to indicate where students should begin their work.
   h. The **qtrain()** method will be **where students will be working on their assignment.** Please review the solution over on the implementation. The major change is the use of the custom **train_step** method to speed up the code execution in Codio's CPU while removing the retracing error.

i. **Note:** When students run this, their qtrain() method should **fail** with the starter code when ran in the 3$^{rd}$ to last cell.