Introduction: The idea behind my project was to have Tetris pieces with personality as if they were hotheaded players on a sports team. The pieces would gradually adapt from the player's moves and decisions, and their behavior would therefore be altered which would limit the player's control over them.
The main difference (from what I conceptualized, not wrote in the initial submission) was that there would be a bit of a branching story along with the game, with the pieces having different dialogue. I'm disappointed this didn't pan out because it gave the game a lot more personality.

Topics:
Decision Tree Training (2 pts)
Illusion of Life Animation (1 pt)
Experiment (1 pt, details below)

Team: Sam Pinheiro.

Systems: It's basic Processing, but you may have to download the sound library. You can get this from the Sound library.
The instructions on how to play are all detailed in the README. I also attached them to the very end of this report.

Failures and setbacks: It was very difficult to get through the intermission, as I needed to animate all the various pieces despite them being designed with the intention of very limited motion. This caused me to refactor my project a bit to make this possible.
The intermission itself was difficult to get playing, and it took me a while to resolve how to get it to play for more than one tick of the draw() function.
The Decision Tree was also difficult creatively, as I had to think of different paths I could assign each piece down while making the outcomes realistic with some type of personality.

Successes: In general I'm happy with the difficulty level of the game. I had a few participants get quite far, and while it's annoying and a bit *too* challenging I still find myself going back to it. The hardest feature is getting a piece which will refuse to rotate (which can be cheated by making sure to rotate the square many times during the first 10 lines).

Evaluation:
I had six participants. I first had each of them play a normal game of Tetris, then I had them play my version several times. I then asked them the following questions:

1) Which version of Tetris did you prefer?
2) Was it clear how the pieces were being affected personality-wise?
3) Was the personality of the pieces clear in the animation/through their actions?
4) How would you rate your overall enjoyment of the game?
5) Did the challenge of the game seem fair?

1) For this question, all six participants preferred the normal version of Tetris.
2) For this part, only two said it was clear yet four people did eventually understand the connection between their actions and how the pieces were affected after repeated playthroughs.

3) The consensus here was that the personality was clear after enough playthroughs. Before that the game just moves too fast to really put the pieces together, but then the intermission eventually became helpful to see what was coming. Two out of the six participants said they never made a connection between the animations and personalities however.
4) 3 out of 6 still enjoyed the game despite preferring the original version. The other half didn't enjoy the game, mostly citing the confusion or unnecessary difficulty.
5) 2 out of 6 thought the challenge was a reasonable enough difficulty.

I tried to do some calculations to see if I could make any meaningful claims about the data, but ultimately the sample size was too small to be able to determine anything.

For 3 of the participants I had also lied at the beginning and when they played the "personality" version of the game, they were just playing a normal version of Tetris. They had all realized there was no difference between the two versions and I then allowed them to play the actual version.

Lessons Learned: I didn't learn much admittedly, besides the method behind Decision Trees. I'm much more creative from a writing standpoint so I'm disappointed I didn't take the more story-driven route. It was difficult for me to create a meaningful AI with a well-established game like Tetris, which I suppose I knew going in.
I'm not disappointed I didn't try to learn a new engine, as the concepts behind the class were more important to me. But I still felt those could've been more firm in my final submission.

INSTRUCTIONS:
-Play the game until 10 lines are cleared (can be changed with DIFFICULTY variable. The game keeps track of movements, placements, rotations, substitutions, and cleared lines.

PERSONALITY KEY:
NONE - Normal behavior.
REFUSE_SUB - Will not allow itself to be subbed out.
REFUSE_LISTEN - Will do the opposite of what the player asks. Clicking SHIFT will rotate the block once then slam it down.
REFUSE_ROTATE - Will refuse to rotate.
APPEAR_MORE - Will appear almost twice as likely as any other piece.
WONT_APPEAR - If the player ever subs this piece out, it won't appear again.
TRANSFORM - The piece will... we'll it'll be obvious :p.

Additional personality ideas are welcome!

CONTROLS:
-Arrow keys to move block
-Shift to drop block
-Z and X to rotate
-Space to hold block
-R to reset game

NOTE ABOUT DECISION TREE:
-There's an implicit condition in each branch. For the "most" and "least" conditions, it only checks among the pieces that have yet to have an assigned personality.