TNPG: Raisins (Ruby Friedman, Samantha Hua, Nada Hameed)
APCS
Final Project -- Project Proposal
5-25-2022

Solidify:
We are going to solidify our understanding by utilizing class hierarchy. We plan on doing this by structuring our game to have subclasses for Trainers, Items, and Pokemon. This allows us to streamline our code because we can give these subclasses attributes and methods that make them more useful. Linking these files together will cement our understanding of class hierarchies.
We are going to use stacks when users select which Pokemon they want to compete in a fight. The order in which they are selected is the order in which they will fight. This makes stacks a good fit for this job and will allow us to see stacks in a different environment.
We are thinking of incorporating evolution trees of the Pokemon which will pave the way for our usage of trees. While this is not a priority, we are hoping to implement this crucial element in our game. Evolution is easily tracked in trees, which can support our understanding of how trees are used and traversed.

Showcase:
Our final project will be a Pokemon game run in Processing with image graphics in which the user can catch a variety of species of Pokemon, evolve them (non priority), and battle other trainers with them. In this game, the user can move by pressing the WASD keys to go north, south, east, and west respectively. The user will also have a "backpack" of items they can use to catch pokemon, increase the chances of catching a pokemon, and heal pokemon. The code will showcase our knowledge of class hierarchies, inheritance, stacks, and trees (as well as our newfound knowledge of Processing).

Extend:
There are several additional features that we want to implement in our Pokemon game, given that we have enough time to do so. Some of these include the use of multiple "biomes," meaning that the "map" of our world extends beyond the shop and the starting play area. So once the user passes the border of the screen, they enter a new area; that could be, for example, a desert or a jungle or a mountain range, and it would function in the same way as the starting screen does. Another thing we want to implement is a walking animation, so that if the player is walking to the left, for example, their side profile will be displayed. We would do this through importing images of our characters in multiple positions. We are also considering the addition of a trainer selection option. There is also the possibility of including something that allows for the user to see all Pokemon that are available to catch (or pokedex as it's called in the game). We could also include different types of Pokeballs, which are used to catch the wild Pokemon, some with a higher catch rate.