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September 10, 2018
Software Engineering

Homework 2 Design Rationale

In creating this horse race simulation, there were several different design decisions that I made. The first was to create three main classes, the race class, the horse class and the strategy class. The strategy class was an abstract class which had three child classes that inherited from it, with each class representing one of the different strategies that were specified in the problem declaration. My rationale for doing this was that this would make it very easy for new strategies to be added. At first, I had used an indicator variable instead of the separate strategy class with children classes. This was not ideal as adding new strategies would be hard as a coder would have to go in and change the race class functionality to accommodate this new strategy. However, with the parent class RaceStrategy and the children classes that match the different strategies, a new strategy can be added by creating a new child class without changing any functionality in the horse and race classes. This ease of adaptability made this design much more ideal than the first, initial design that I used.