

Part 1: Design

1. Explain how your design will be able to store the information of games, athletes and user predictions.

In the Ozlympic Game system design, I use ArrayLists to store the information of games and athletes. For user prediction, I just store it as an integer variable. All of the ArrayLists are hard coded in the Database class.

2. Explain how your class hierarchy will forbid a user from creating a “generic” type of participant (i.e. not a athlete nor an official)

Typecasting is being used in my class hierarchy. My class hierarchy is having Participant as the top abstract class. Athlete is the abstract super class to other types of athlete like swimmer, cyclist, sprinter and super athlete. Official is the only child to the Participant. Abstract class cannot be instantiated, but they can be subclassed.

3. Explain the process by which your program will maintain a game and give correct score to athletes according to their performance.

The game class created and store the game object until user discontinue the game.

The score is being set after the raceResult ArrayList has been sorted according to the least complete time to complete the race.

4. Explain how a user prediction can be checked with the actual game results.

User enter their prediction by looking at the generated ParticipantByType ArrayList.

The system will pull the athlete's ID from the ParticipantByType ArrayList by using user prediction and store the athlete's ID. This stored athlete ID will then compared with the first athlete's ID in the raceResult Arraylist which the athletes in the raceResult Arraylist has been sorted according to the least complete time.

Assignment 1 - Ozlympic Game
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Class Diagram

