

CS8

Assignment 4: Baseball Fun With Classes

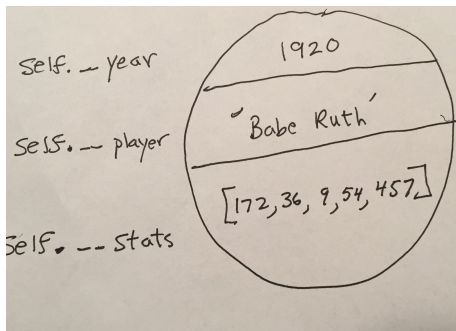
Due Date: November 6, 2017 by 11:59PM

Assignment Overview

This assignment is in two parts. This part of the assignment focuses on the design, implementation, and testing of a new data type. The second part will be posted after this part of the program is written and working properly.

Assignment Specifications

You are to create a new data type called **PlayersYear**. A **PlayersYear** object is a collection of statistics about a major league baseball player's performance during a given year in his career. Babe Ruth's statistics from 1920 are 172 hits, 36 doubles, 9 triples, 54 homeruns and 457 at bats. Note that the number of **singles** is **not** listed in this information because that number can be found from the other given information. The Babe had 73 singles in 1920, use this to figure out the formula for **singles**. Here is a depiction of the Babe's **PlayersYear** object for the year 1920:



Note that all the instance variables are private because of the double-underscore `__` in the names of each instance variable. In addition, `self.__year` is an integer, `self.__player` is a string, and `self.__stats` is a list of integers.

I've provided three files. The file `PlayersYearForStudents.py` is an outline of the functions you are to implement for this new data type. The file `driver.py` is a program used to debug your class (I suggest you test one function at a time in your class. So, comment out everything in the driver after the function call being tested). The file `output.txt` is the output you should get from running the driver on your new class. If they don't match, you are not finished yet.

In this class, you are to implement functions to compute the number of singles, the batting average and slugging percentage of a player. A player with zero at bats is defined to have a batting average and slugging percentage of 0.0.