Product pitch

NBA teams need to track a lot of data, from match statistics to player efficiency. That is why I created this program. It will help your NBA team organize the data. By reading a .csv file containing match results, this program will store each player's basic stats, namely points per game, assists per game, and rebounds per game, as well as the coach's win percentage. This program can differentiate between regular season and playoff matches. Playoff games will look at two extra player stats on top of the basic stats, three-point percentage and field-goal percentage - because efficiency is really important in playoff matches - and will also change the coach’s playoff win percentage. This program allows you to do a lot with the data, such as sorting matches by point differential, players but points per game, and coaches by win percentage. It also gives you administrative abilities such as trading players and hiring/firing coaches. This program will nicely display all matches, a certain player, and all players, and will also write a save file containing coach stats and all player's stats.

Problem

Create a tracking system for players and coaches on any basketball team based on match results.

Objectives

**Storing records:**

Roster: (name, age, matches attended, playoff matches attended)

* Player
  + Jersey number
  + List of regular season stats: points/game, assists/game, rebounds/game
  + List of playoff stats: points/game, assists/game, rebounds/game, FG%, 3PT%
* Coach
  + win%
  + playoff win%

Regular Match

* Opponent team, your score, opponent score

Playoff matches

* Opponent team, your score, opponent score, bracket stage

**Adding records:**

* Adding matches to the team every time a match is loaded
* Adding players/coaches to the team every time the roster is loaded
* Adding a player when you make a trade
* Adding a coach when you hire a coach

**Modify records:**

* Modifying players/coaches stats when reading the statistics of a match
* Modifying the roster by resetting the statistics

**Delete records:**

* Deleting a player when you make a trade
* Deleting a coach when you fire a coach

**Search records:**

* Search players/coaches by name

**Sort records:**

* Sorting matches by point differential
* Sorting players by points per game
* Sotring coaches by win percentage

**File reading (.csv):**

* Reading match files
* Reading roster file
* Extra players/coaches for trading players and hiring coaches

**File writing (.csv):**

* Writes the save file for the roster which is done automatically at the start and end of the program