**CS230 Project – Word Report**

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**Introduction**

The project task was to develop a program that can read, edit and export baseball players data. The main functionality of the program is to read data from a file, store that data which can later be searched, modified, sorted and exported.

The program is written in C++ and it is made using an object *player* which holds *name*, number of *games*, *home runs*, *strikeouts*, *home runs per game* and *strikeouts per game*. These objects are stored in a vector named *player list.* The program uses methods to either modify, search or sort the data and they are *calculate home runs per game, calculate strikeouts per game, display vector, limit search, swap players and sort vector.*

The program starts of by presenting a menu with **6** options:

**1) Read player data from a file.**

**2) Search players by stat limit.**

**3) Calculate home runs and strikeouts per game.**

**4) Sort player data.**

**5) Export player data to file.**

**6) EXIT.**

The *first* option asks the user the user for the name, extension and the directory of the file from which they want to import the player data. This data is then stored as objects into a vector like mentioned earlier.

The *second* option allows the user to search the players based on a stat limit. The option starts of by presenting a sub menu with all the player data except the name. After choosing by which stat they want to limit search the user is asked for the limit number. Then the program uses the *limit search* method to find and display all the players above the user stat limit.

The *third* option uses the *player* object methods *calculate home runs per game* and *calculate strikeouts per game* in order to calculate those stats and store them into the object.

The *fourth* option sorts the data based on any stat of the *player* object ordering it either ascending or descending. The option starts of by presenting a sub menu of all the *player* object stats. After choosing the stat the user is asked for either ascending or descending order. Then the program uses the *sort vector* method in order to sort and then display the data.

The *fifth* option asks the user for the name, extension and the directory of the file where they want to export the player data.

The *sixth* or the last option is an exit option which just ends the program.

**The flowchart**

