

CS1050 – Prelab 10

Spring 2019

Concepts to Practice

- Structures
- Formatted I/O

Description

For the prelab assignment, you need to implement a program that reads data from the provided prelabstats.dat file into an array of structures. The structure (which you will define) will be tagged `_Player` and should contain a field that will represent the player's first name, a field that will represent the player's last name, and a field that will represent the player's batting average. The first name and last name fields should be able to hold a name that is at least 24 characters long, and the batting average should be a floating point number. Your program should be able to handle up to 25 players.

With regard to the data file, you can assume that baseball player first names and last names will not have a space in them, and that there will be a space after the player first name, last name, then will follow the player batting average.

The name of the data file (which is included and can be downloaded from Canvas) is prelabstats.dat.

Functions You Must Write

You may write any functions you wish to implement this program, in **addition** to the following functions. However, you **must** implement the following functions, and they must be prototyped as shown:

- **int FillArrays(struct _Player * players, char * filename)** – This function takes an array of player structures, and a string indicating the file that contains the data. The function should open the data file and read data from the file into the array of structures until there is no more data in the file (i.e., “end of file”). The function returns a count of the total number of players read.
- **void PrintArrays(struct _Player * players, int count)** - This function prints the player names and batting averages from the given array of structures, for each entry up to the count of entries. The function should print nicely-aligned columns as shown in the sample output.
- **int main(void)** – You will need to write a `main()`.

Sample Output

```
JimR@JimRArea51:$ compile prelab10.c
JimR@JimRArea51:$ ./a.out
**** Team Batting ****
```

First Name	Last Name	Batting Average
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Matt	Carpenter	0.224
Paul	Goldschmidt	0.235
Paul	DeJong	0.329
Marcel	Ozuna	0.269
Yadi	Molina	0.243
Dexter	Fowler	0.271
Harrison	Bader	0.179
Kolton	Wong	0.290
Jose	Martinez	0.333
Matt	Winters	0.333
Yairo	Munoz	0.286
Tyler	O'Neill	0.286
Jed	Gyorko	0.100
Lane	Thomas	0.500