Intro to Programming

Module Title:	Intro to Programming.
Assignment Type:	Practical Individual Assignment.
Project Title:	Sport Event Society System.
Project Date:	February 2021.
Assignment Compiler:	Amilcar Aponte.
Weighting:	40%
Due Date:	3rd April 2021 @ 23:59. **Late submissions will be accepted until the 9th April @ 23:59. All late submissions are subject to a penalty of 10% of the mark awarded.**
Method of Submission:	Moodle Submission. **No email submission will be accepted.**

Assignment Introduction

A small sports event society wishes to organise its events for the coming year.

You have been tasked with the job of performing an analysis of the current membership based on the data that they have provided you with.

The organisers wish to know:

- How many members are fans of a particular sport.
- What age group is prevalent for each sport.
- What gender is more prevalent for each sport

Specific Requirements

Using the member data supplied (in a CSV file dynamically generated by the code provided) your program should provide a menu to allow a user to:

- View all members.

- View relevant data about a particular sport:

  - Total number of members that follow that particular sport.
  - Breakdown of how many members follow that particular sport by group age.
    - Members are aged between 12 and 86 years old, split this into 4 groups. You can decide the age limits for each group.
  - Breakdown of how many male and female members follow that particular sport

- You must implement also a menu so the user can chose which of the two main options they want to use. When it comes to the second option (info about one sport) you need to offer the user a way to search for the sport.

- An option to close the program should be included in the menu if this is selected the program should finish. The program should allow the user to see different analytics without having to run the program again.

- Your source code must be properly commented and a reasonable explanation of your logic should be included. This explanation can be short and simple, but clear enough to demonstrate your understanding of your own code.

- Additionally, you must supply a one page PDF document that includes a short justification of your design choices.

Notes

- You have been provided with some code that will generate a new CSV file with random data every time the program runs. This code must not be modified and should be included in you final script.
- The code provided will generate a random amount of data that will range between 500 and 1000 members, so your program should be capable of dealing with any amount of members.
- Part of your submission is a PDF document with a justification of your design decision. This is not an explanation of the code. This should be a justification to why you decided to do things the way you did.
- Plan your program before start coding. work everything out on paper first.
- Comment your code!!
- Plagiarism will not be tolerated. All code must be your own. If you used some snippet of code from an external source, make sure that you reference it correctly inside your code.
- In any situation, the lecturer is entitled to call you in for further explanation of your code.
- **Your code must run as no debugging will be done.**

Deliverables

You must submit through Moodle two separate files:

- Your python source code in format .py.
- One page PDF document that includes the **reasoning** behind your design choices.

Marking Scheme Summary

Description	Weighting
User menu - Correct display of options - Validations have been implemented correctly - It comes up after any function has been performed - The program closes when needed	15
All members function - The functionality has been implemented correctly - Validations have been implemented correctly - There are meaningful error messages when needed - Code is well structured - Code is well commented	10
Sport search functionality - The functionality has been implemented correctly - Validations have been implemented correctly - There are meaningful error messages when needed - Code is well structured - Code is well commented	20
Analytics for a particular sport - The functionality has been implemented correctly (number of followers, age profile, gender classification) - Validations have been implemented correctly - There are meaningful error messages when needed - Code is well structured - Code is well commented	40
Documentation includes sensible reasoning for the design choices.	15
TOTAL	**100**