



7TH WEEK PROJECT

Write the following Program in C/C++:

- **Use one of the data structures you learnt to implement a program that maintains the top scores for a video game. Each Player has :-**
 - 1- Player ID [int]
 - 2- Player Name [String]
 - 3- Player Score [float]

- **The Program contains the following operations :-**
 - 1- *Start a New Game*
 - 2- *Add a New Player*
 - 3- *Update Player's score given his ID*
 - 4- *Print the name of the top player with maximum score*
 - 5- *Remove a Player by ID*
 - 6- *Print all players data sorted by the score*
 - 7- *Calculate average score*
 - 8- *Exit the game*

Grading Policy

- Available marks for this task is 20.
- Awarded mark will be based on the rubric included in the last page of this file
- No late submission is accepted
- ** Plagiarism Penalty * if plagiarism/cheating was detected in your deliverables, your work and the work from which you copied will be awarded a 0 (zero).*

Deliverables & Submission Policy

- By Email to Mhmoudko.osama@gmail.com
- Title: CS212 – 7th Project – Yourname - RegID
- You will submit the program C/C++ File
- You will submit a report about your program including:
 - An explanation of why you chose this type of data structure
 - An explanation of each function in the program and how the general and special cases are handled in each operation
- Deadline: [Fri 10 April 11:59PM]

Rubric:

- **Program Operations [Total: 35 Points]**

- 1- Start a New Game [3 Points]
- 2- Add a New Player [6 Points]
- 3- Update Player's score given his ID [6 Points]
- 4- Print the name of the top player with maximum score [6 Points]
- 5- Remove a Player by ID [6 Points]
- 6- Print all players data sorted by the score [3 Points]
- 7- Calculate average score [3 Points]
- 8- Exit the game [2 Points]

- **Code Standards [Total: 15 Points]**

- 1- Correct Syntax / No Compilation Errors [5 Points]
- 2- No Runtime Errors [5 Points]
- 3- Correct Logic / Results [5 Points]

- **Report [Total: 15 Points]**

- 1- Correct Report Format (Have a Cover-page containing your name & RegID) [2 Points]
- 2- Explanation of why you used this data structure [5 Points]
- 3- Explanation of the special cases handled for each operation [8 Points]

- **Total Mark of the 7th Week Project Will be scaled to 20 Marks and Calculated as Follows:**

$$= (\text{Program Operations [35]} + \text{Code Standards [15]} + \text{Report [15]}) / 65 * 20$$

$$= \text{the mark out of 20}$$