SECTION D

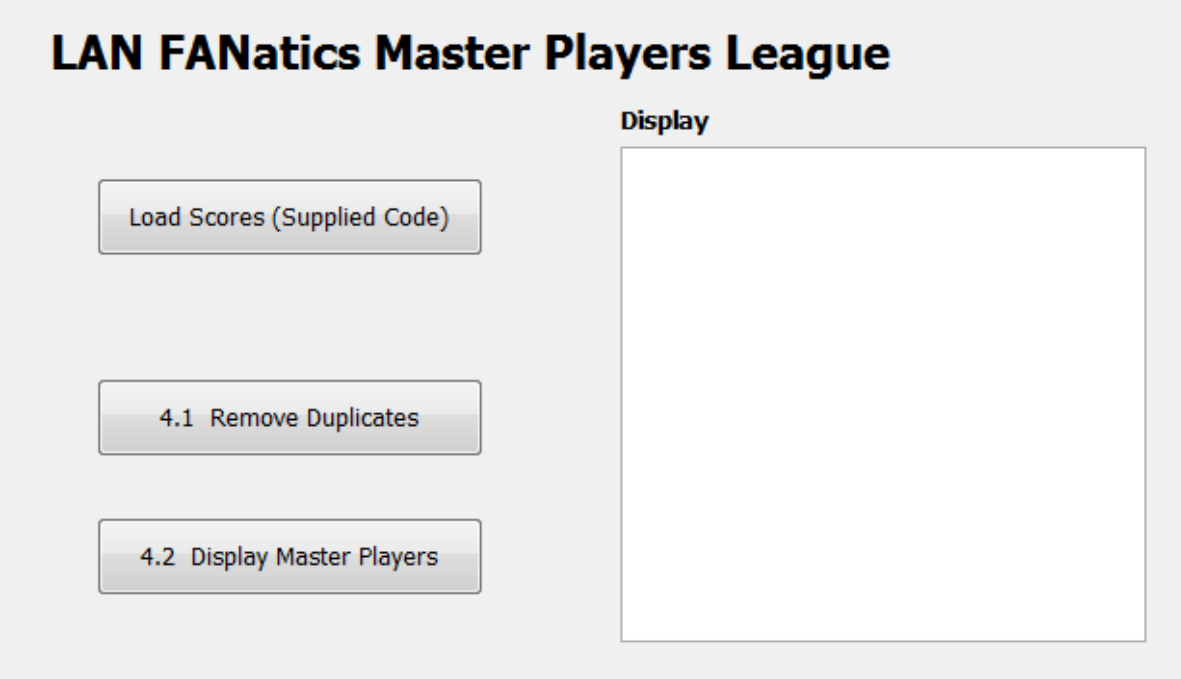
QUESTION 4: PROBLEM-SOLVING PROGRAMMING

The LAN FANatics group will be hosting an elite Master Players competition. They want to select all the players with scores above that of average players. A text file that contains the names and scores of all the players has been supplied.

Do the following:

- Compile and execute the program in the **Question4** folder. The program has no functionality currently.
- Complete the code for each question as described in QUESTION 4.1 and QUESTION 4.2.

The following GUI is displayed when the program is executed:



The following has been provided:

- A text file called **Scores.txt**, which contains the names and scores of all the players who participated in the game play events. The information is supplied for each player in the following format in the file:
  <name>,<score>
- A **Load Scores** button, which contains code to read the data from the **Scores.txt** file into two parallel arrays called **arrNames** and **arrScores**.
- A procedure to display suitable headings and the names and scores contained in the two parallel arrays.

Write code to perform the tasks described in QUESTION 4.1 and QUESTION 4.2 on the next page.

4.1 **Button [Remove Duplicates]**

More than one game score was captured for some of the players in the file. Write code to ensure that only the highest scores and the corresponding names remain **in the provided arrays**.

Example of output that shows only the highest score for each player when the **Display** procedure which displays the content of the arrays are executed:

NAME	SCORE
Sanele Mhlanga	2452
Simon Valli	1280
Helen Ncube	4142
Michelle Grobelaar	2194
Ulrich Hinze	3965
Roland Schnell	3830
Gerhard Oosthuizen	5662
Henry Mason	1027
Sifiso Ntshangase	4898
Sue Prins	3684
Franky Mwelase	5674
Andrew Singh	5128

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4.2 **Button [Display Master Players]**

- Obtain the names and scores of all players with scores higher than the average score of all players. Use the array, which contains only the highest scores, to calculate the average score. That is the array where lower duplicate scores of the players have been removed.
- The average score must be displayed as part of the heading in the output area.
- Save the names and scores of these players in another array called **arrHighScores** as a string in the following format: <Name>#<Score>

  Example: **John Smith#5623**

- Sort the content of the array **arrHighScores** alphabetically and display the sorted names and scores in the **Display** area.

Example of output:

```
MASTER PLAYERS
Scores above an average of 3661
Andrew Singh#5128
Franky Mwelase#5674
Gerhard Oosthuizen#5662
Helen Ncube#4142
Roland Schnell#3830
Sifiso Ntshangase#4898
Sue Prins#3684
Ulrich Hinze#3965
```

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- Enter your examination number as a comment in the first line of the program file.
- Save your program.
- Make a printout of the code if required.

TOTAL SECTION D: 30
GRAND TOTAL: 150