**JDBC Assessment**

**Key Concept**

For this JDBC Assessment, I created a Football database that recorded a player with their personal details (such as first name, last name, age, dob, nationality, etc..) and some statistics of that player (e.g., appearances, goals scored, total assists completed).

I created this database to store details about player(s) in the Premier League.

At first, the only way the user could create or alter player data was using MySQL Workbench or the command line. Altering the database using this way can be complicated for non-programmer users. Therefore, I created a java GUI application, which allows programmer or non-programmer users to have access to the database and they can create, read, update, and delete records in the database table.

The application also provides the functionality of exporting some statistics in the form of a CSV file. An example of such statistics can be the total number of (different) nationalities per club. In my opinion, this is a very valuable statistics as it points out the diversity of a club.

The application also provides the functionality of visualizing these statistics in the form of charts (pie charts). This was accomplished with the help of JFreechart. The charts are saved as JPEG file format.

**Screenshots of Java GUI**

**A screenshot of a computer

Description automatically generated**

**Chart, pie chart

Description automatically generated**

**Chart, pie chart

Description automatically generated**

**A screenshot of a computer

Description automatically generated**

**Highlight of Project**

For this assessment and type of database, I created a Stored Procedure, which on call returns the top scorer. In my opinion, same result can be achieved using a SQL query. However, using stored procedure is a better option in terms of performance and execution speed as stored procedure are stored once and they can be called repeatedly from the cache.

Graphical user interface, text, application

Description automatically generated

**Conclusion**

I feel that my java GUI application can benefit the end-user in many ways. Firstly, the table view can be seen by user at all times, so they don’t have to use command line or MySQL Workbench to see the table. Secondly, some fields provide a safety in terms of data, e.g., the user can choose the club of the player using a dropdown menu, rather than typing the name of the club, which may cause issues (in terms of misspelled names or inclusion of numbers or special characters in the field). Lastly, as mentioned earlier, the functionality of visualizing data is very useful to the user as they can access the dynamic charts inside the application, rather than using another application.