University of Johannesburg
Academy of Computer Science & Software Engineering
IFM2A10: Informatics 2A – Database Design
Practical Assignment 4 (Due: 8 March 2016 @ 12h30pm)

Assignment

"Hard work beats talent when talent doesn't work hard" – Tim Notke

The Formula One Team Owners Association (FOTOA) has had an emergency meeting regarding team ownership control. Many of the team owners often buy multiple teams and lose control over the information of their teams (because they are too busy in their other business ventures). You have now been approached to design and implement a working database to help them organise their team ownership records.

Information Structure:

Team Owner

- Name
- Overall Investment(e.g. 1 Billion rand)

Formula One Team

- Name
- Country of Origin
- Team Net Worth (e.g. 3 Billion Rand)

Racing Driver

- Name
- Years at the Formula One Team
- Contract Start Date
- Contract End Date
- Driver Status (Lead Driver, Secondary Driver or Reserve Driver)
- Number of completed races
- Number of race wins

Rules:

Each **Racing Driver** belongs to *one* **Formula One Team**.

Each **Formula One Team** can have *multiple* **Racing Drivers**.

A **Team Owner** can own *several* **Formula One Teams**.

According to the FOTOA rules, each **Formula One Team** can only be owned by *one* **Team Owner**.

Note: Add at least 6 Team Owners, 15 Formula One Teams and 30 Racing Drivers.

Questions: Complete the following using SQL Queries

A. Create **multiple** tables (minimum of 3). Name the tables appropriately; select appropriate names and data types for each attribute, and include an appropriate unique key value for each table.
   - Save all SQL Create queries

B. Add **TWO** entries to **EACH** table using SQL (save these queries), other entries may be entered directly into the table.

C. How many Formula One Teams does each Team Owner own?

D. List each Formula One Team and the sum of all races that have been won by the Racing Drivers in the team. Use an Alias.

E. Racing Drivers hired to be reserve drivers can be promoted to be secondary drivers. To determine if a reserve Racing Driver is eligible for a promotion, the following formula is used to calculate their promotion score:

```
(Number of Race Wins / Number of Races Completed) * 100
```

   E1 – Show a list of all Racing Drivers and their promotion calculation score. Use an Alias.

   E2 – Show a list of all Formula One Teams (team name only) and the name of the reserve Racing Driver that will be promoted. For each team, only the reserve driver with the highest promotion score is promoted. Use an Alias.

F. List all Racing Drivers (display only their name) and their Formula One Team's owner's name.

G. Which Team Owner, by name, has the most Racing Drivers?

H. Which Team Owner, by name has the highest net worth in terms of owned Formula Ones Teams?

I. List all Racing Drivers whose contracts expire before the 30th of June in 2016.

Instructions

- This solution must be implemented in Microsoft Access.
- Name all queries according to their question number. For example:
  - Question A as "**A**", Question B1 as "**B1**", etc.
- Submission details are outlined in the General Undergraduate Learning Guide. Please ensure that the submission complies with the instructions therein.
- Submit and upload a text file (extension: .txt) that adheres to the following rules:
  - Name your text file using your Student Number, Initials, Surname and Practical number.
    - E.g. 2014000001_A_SOMEONE_P04.txt
  - Include in your text file all your student details (Student Number, Initials, Surname and Practical number.)
  - Copy all your queries to the text file.
    - Use the Question Number as a heading for each query or set of queries.

Mark Allocation

Query A	14
Query B (B1 – B6)	6
Minimum Data Requirements	5
Query C	5
Query D	10
Query E1	5
Query E2	10
Query F	10
Query G	15
Query H	15
Query I	5
Total	**100**
Penalties • Late/No submission [0%] • Failure to add the text file [50%]	