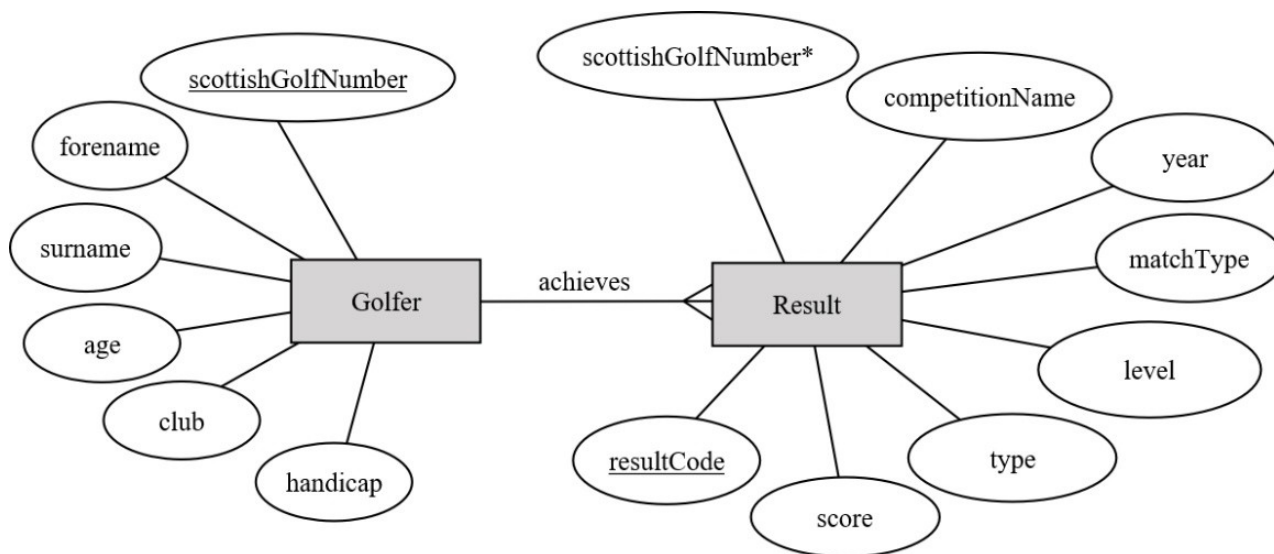


In 2019 Scotland Golfers started the process of taking information about golfers and their competition results and producing a database to store the data.

They began by identifying the functional requirements of the database. The database should:

- store data about each golfer including their name, age group, club and handicap
- store the individual scores achieved by a golfer at competitions including the details of the competition they took part in
- display the lowest score in a competition
- display contact details for a single golfer
- display a list of handicaps for a single golf club
- display the complete results for a single tournament
- update a golfer’s handicap when required
- delete a golfer (or their results) from the database when required

The above was used to create the design for the database as shown below.



**Question 1**

State one reason why the database is not fit for purpose.

(1)

The database does not store the contact details of golfers. (1 mark)

**Question 2**

When designing a database, you should avoid having lots of repeating data.

Explain why this is a poorly designed database.

(1)

The information about a competition (competitionName, year, matchType, level, type) is repeated for each golfer who has a result. (1 mark)

**Question 3**

In a competition, a golfer’s final score is calculated as **score-handicap**. Due to the database design, Scotland Golfers can’t look back at older competitions and work out who won. The golfers’ handicaps will probably have changed from when they took part in the competition meaning the calculation would be wrong.

State how you would redesign the database to fix this problem.

(1)

An extra attribute could be added to the Result entity that stores the golfers handicap at the point they played in the competition. (1 mark)