Question 1 – Assume we are operating with the following tables for a Sporting Competition Database

Attendance (Tournament, Venue, Event, Attendance)

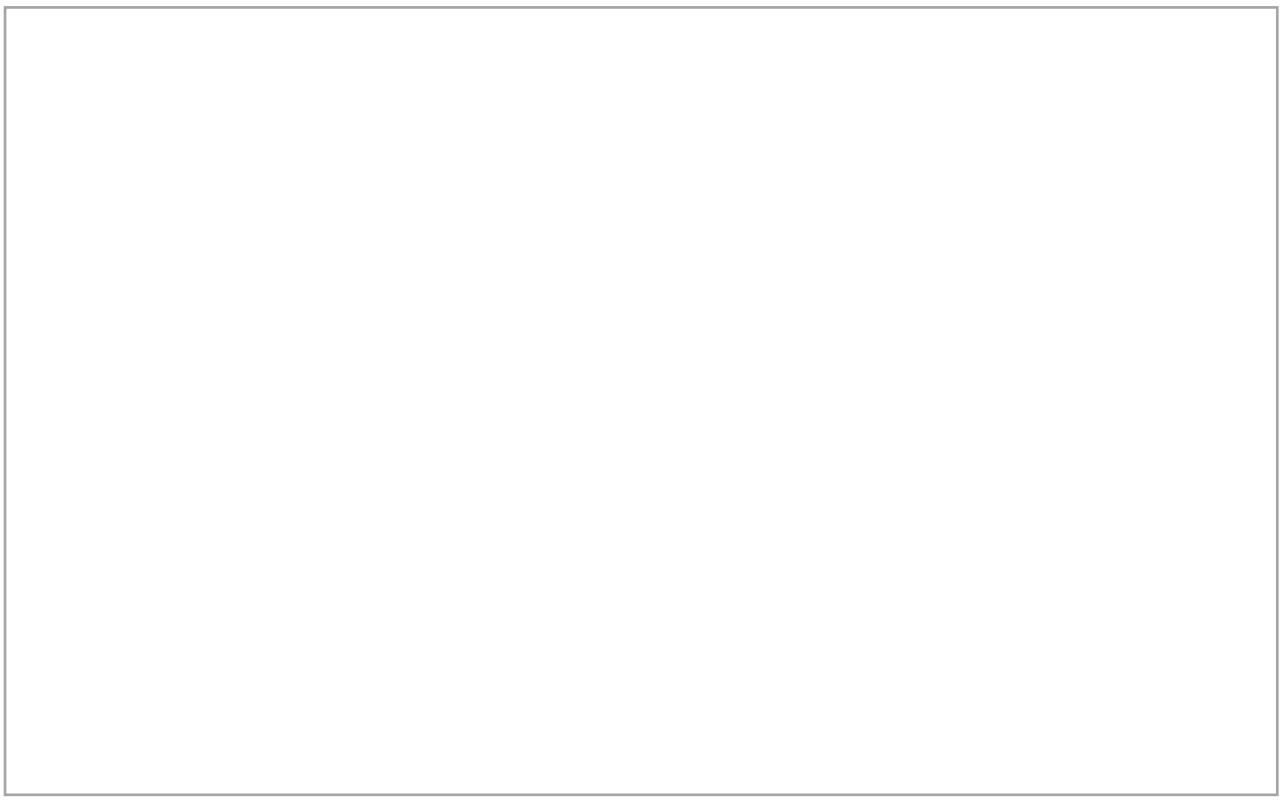
Tournament (Tournament, TournamentType, TournamentOrganiser)
- Tournament example: 2000 Olympics
- TournamentType example: Olympics
- TournamentOrganiser example: IOC

Venue (Venue, Suburb, City, Country)

Event (Event, SubSport, Sport)
- Event example: 100-meter Sprint semi-final
- SubSport example: 100-meter Sprint
- Sport example: Athletics

a) Construct the Fact Table of the database

b) Construct a Star Schema of the database



c) Construct a Snowflake Schema of the database

Question 2 – Assume we are operating in the same database in the previous question (assume we are operating with the Star Schema). Answer all the following questions with this query as the baseline [Assume the query is reset to this form before every new question]:

```
SELECT T.TournamentType, V.City, E.SubSport, SUM(A.Attendance)
FROM Attendance A, Tournament T, Venue V, Event E
WHERE A.Tournament = T.Tournament
AND A.Venue = V.Venue
AND A.Event = E.Event
GROUP BY T.TournamentType, V.City, E.SubSport
```

a) Write a query to perform a Roll-Up on the Venue

b) Write a query to perform a Drill-Down on the Tournament

c) **Write a query to perform a Slice where the Sub Sport is 400-meter Freestyle**

d) **Write a query to perform a Dice where the Sub Sport is 200-meter Sprint and the Tournament Type is the Olympics**