

## **IT214: Database Management System**

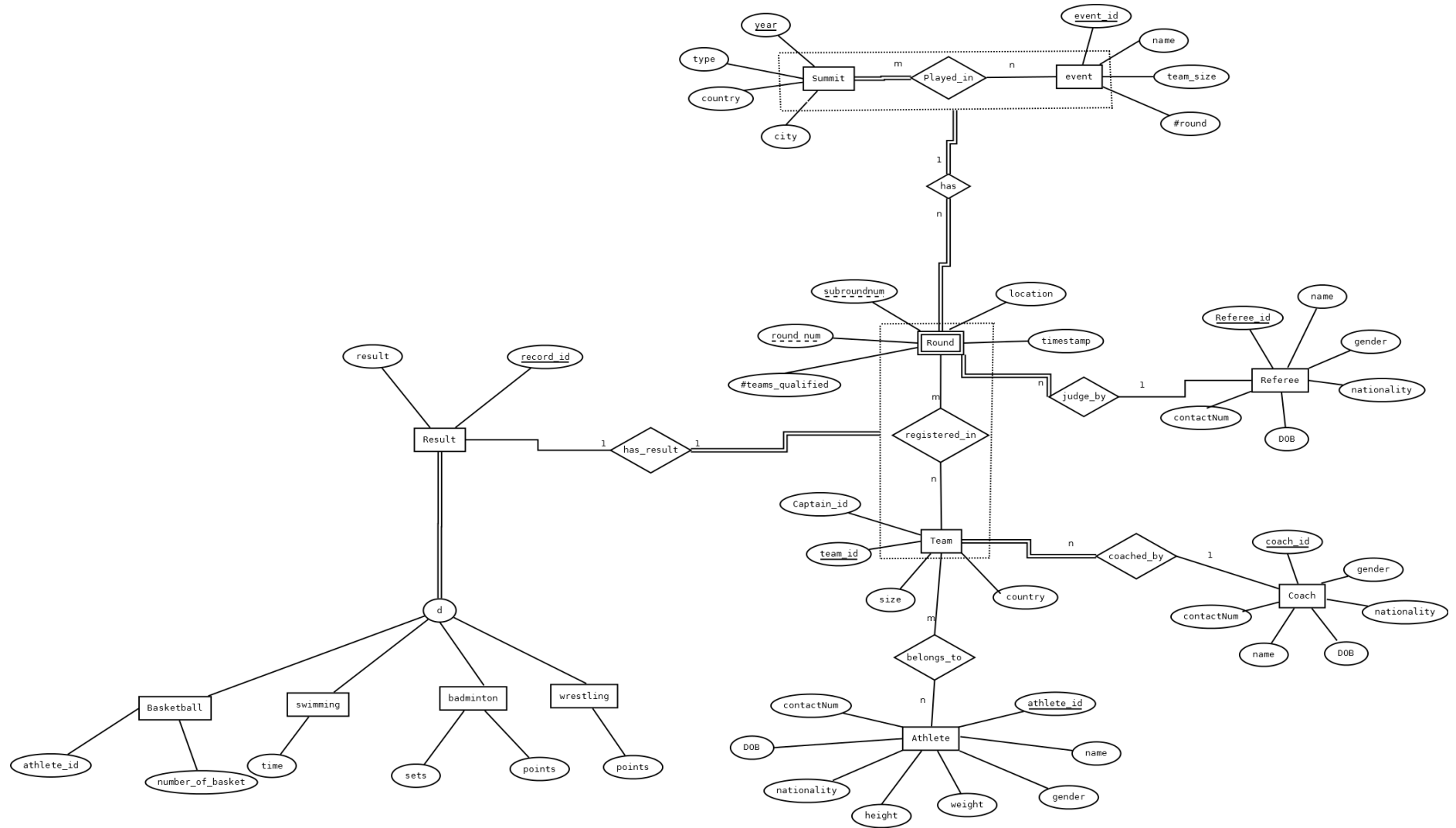
### **Commonwealth Games Database Management System**

**Group Number: 3.12**

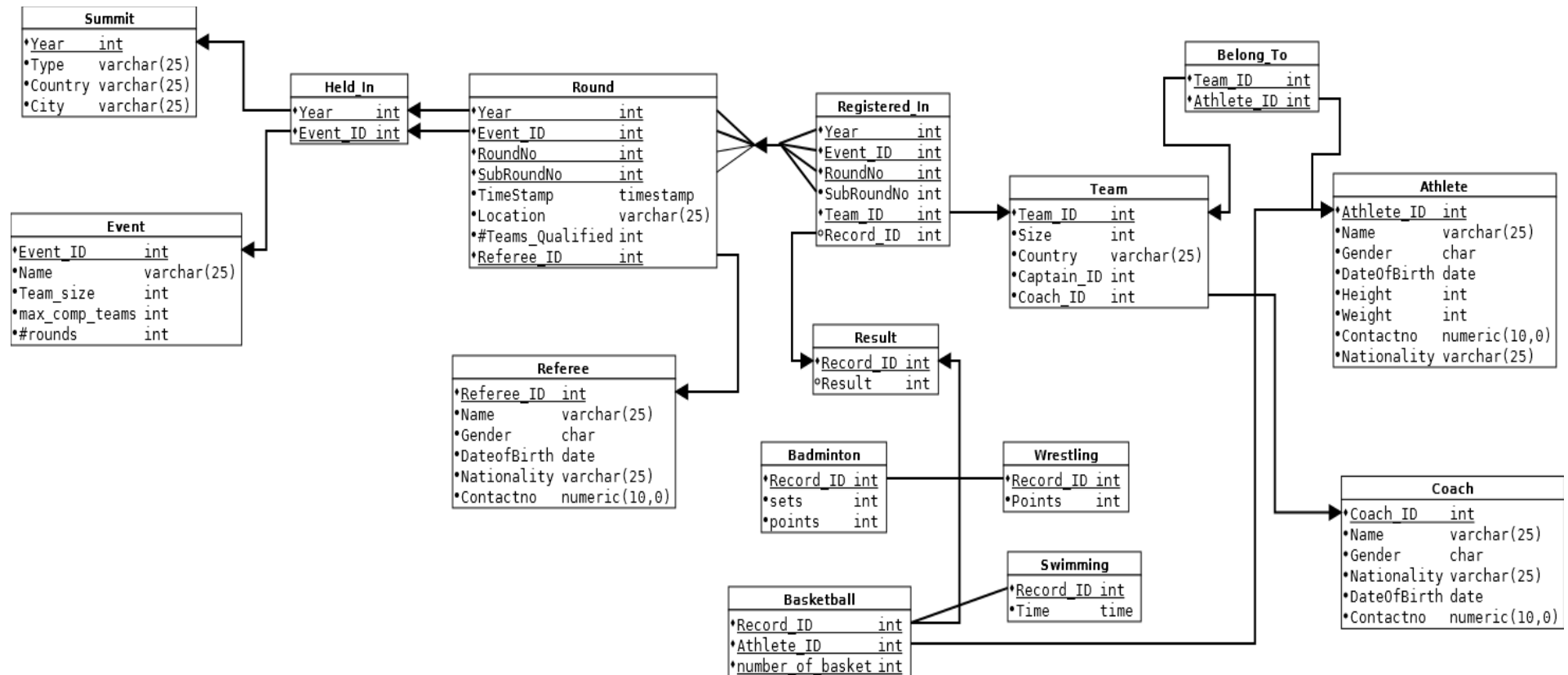
#### **Group Members:**

- 1) Keshvi Bhimani: 201701186**
- 2) Rohinee Sarvaiya:201701172**
- 3) Jaykumar Dave:201701204**
- 4) Rohan Prajapati: 201701218**

## ER Diagram:-



## Relational Schema:-



## Minimal FD Set:

Summit:-

Primary Key: Year

Year  $\rightarrow$  type

Year  $\rightarrow$  Country

Year  $\rightarrow$  city

Event:-

Primary Key: Event\_id

Event\_id  $\rightarrow$  name

Event\_id  $\rightarrow$  team\_size

Event\_id  $\rightarrow$  max\_comp\_teams

Event\_id  $\rightarrow$  #rounds

### Round:-

Primary Key:- (year, event\_id, roundno, subroundno)

(year, event\_id, roundno, subroundno) → timestamp

(year, event\_id, roundno, subroundno) → location

(year, event\_id, roundno, subroundno) → #teams\_qualified

(year, event\_id, roundno, subroundno) → referee\_id

### Registered\_In:-

Primary Key: (year, event\_id, roundno, subroundno, team\_id)

(year, event\_id, roundno, subroundno, team\_id) → record\_id

(year, event\_id, roundno, subroundno, team\_id) → result

### Team:-

Primary key:team\_id

Team\_id→size

Team\_id→country

Team\_id→captain\_id

Team\_id→coach\_id

### **Athlete:-**

Primary key: Athlete\_id

Athlete\_id→name

Athlete\_id→gender

Athlete\_id→dateofbirth

Athlete\_id→height

Athlete\_id→weight

Athlete\_id→contactno

Athlete\_id→nationality

### **Coach:-**

Primary key: coach\_id

coach\_id → name

coach\_id → gender

coach\_id → nationality

coach\_id → dateofbirth

coach\_id → contactno

### **Referee:-**

Primary Key:- Referee\_id

Referee\_id → name

Referee\_id → gender

Referee\_id → dateofbirth

Referee\_id → nationality

Referee\_id → contactno

## **BCNF Proof:**

Since in all relations there is no partial dependency and transitive dependency also every prime and non-prime attribute is dependent upon the key, hence all tables are in BCNF.