Database project - deliverable 1
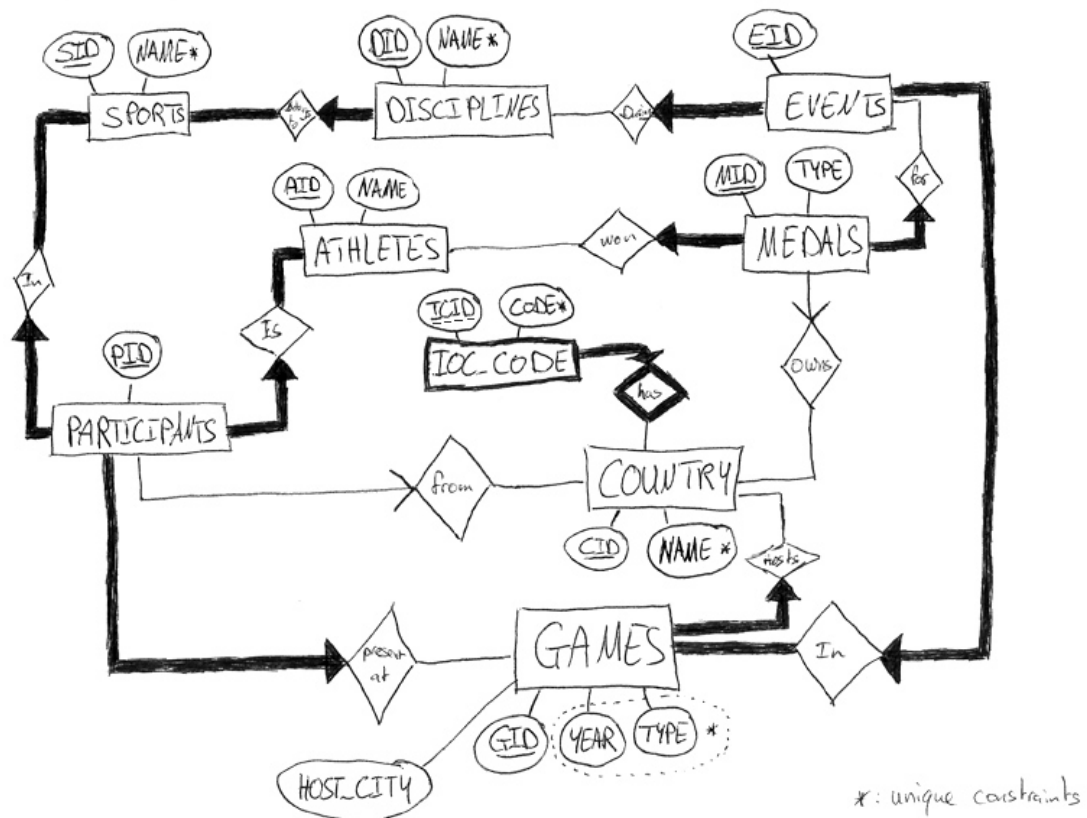
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March ^{24th} 2013

1 ER model

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2 Tables creation

```
1  CREATE TABLE COUNTRIES
2  (
3    CID INTEGER NOT NULL
4  , NAME VARCHAR2(50) NOT NULL
5  , PRIMARY KEY ( CID )
6  , CONSTRAINT unique_country_name UNIQUE ( NAME )
7  );
8
9  CREATE TABLE IOC_CODE
10 (
11   ICID INTEGER NOT NULL
12 , CODE CHAR(3) NOT NULL
```

```sql
    , CID INTEGER NOT NULL
    , PRIMARY KEY ( ICID )
    , FOREIGN KEY ( CID ) REFERENCES COUNTRIES( CID ) ON DELETE CASCADE
    , CONSTRAINT unique_ioc_code_name UNIQUE ( CODE )
    );

CREATE TABLE SPORTS
(
      SID INTEGER NOT NULL
    , NAME VARCHAR2(100) NOT NULL
    , PRIMARY KEY ( SID )
    , CONSTRAINT unique_sport_name UNIQUE ( NAME )
    );

CREATE TABLE ATHLETES
(
      AID INTEGER NOT NULL
    , NAME VARCHAR2(200) NOT NULL
    , PRIMARY KEY ( AID )
    );

CREATE TABLE DISCIPLINES
(
      DID INTEGER NOT NULL
    , NAME VARCHAR2(200) NOT NULL
    , SID INTEGER NOT NULL
    , PRIMARY KEY ( DID )
    , FOREIGN KEY ( SID ) REFERENCES SPORTS( SID )
    , CONSTRAINT unique_discipline UNIQUE ( NAME, SID )
    );

CREATE TABLE GAMES
(
      GID INTEGER NOT NULL
    , YEAR INTEGER NOT NULL
    , TYPE VARCHAR2(50) NOT NULL
    , HOST_CITY VARCHAR2(200) NOT NULL
    , CID INTEGER NOT NULL
    , PRIMARY KEY ( GID )
    , FOREIGN KEY ( CID ) REFERENCES COUNTRIES( CID )
    , CONSTRAINT unique_game UNIQUE ( YEAR, TYPE )
    );

CREATE TABLE EVENTS
(
      EID INTEGER NOT NULL
    , GID INTEGER NOT NULL
    , DID INTEGER NOT NULL
    , PRIMARY KEY ( EID )
    , FOREIGN KEY ( GID ) REFERENCES GAMES( GID )
    , FOREIGN KEY ( DID ) REFERENCES DISCIPLINES( DID )
    , CONSTRAINT unique_event UNIQUE ( GID, DID )
    );

CREATE TABLE PARTICIPANTS
(
      PID INTEGER NOT NULL
    , AID INTEGER NOT NULL
    , CID INTEGER
    , GID INTEGER NOT NULL
    , SID INTEGER NOT NULL
    , PRIMARY KEY ( PID )
    , FOREIGN KEY ( AID ) REFERENCES ATHLETES(AID)
    , FOREIGN KEY ( CID ) REFERENCES COUNTRIES(CID)
    , FOREIGN KEY ( GID ) REFERENCES GAMES(GID)
    , FOREIGN KEY ( SID ) REFERENCES SPORTS(SID)
    , CONSTRAINT unique_participant UNIQUE ( AID, CID, GID, SID )
    );
```

```
82  CREATE TABLE MEDALS
83  (
84    MID INTEGER NOT NULL
85  , TYPE VARCHAR2(50) NOT NULL
86  , CID INTEGER
87  , EID INTEGER NOT NULL
88  , AID INTEGER NOT NULL
89  , PRIMARY KEY ( MID )
90  , FOREIGN KEY ( CID ) REFERENCES COUNTRIES(CID)
91  , FOREIGN KEY ( AID ) REFERENCES ATHLETES(AID)
92  , FOREIGN KEY ( EID ) REFERENCES EVENTS(EID)
93  , CONSTRAINT unique_medalist UNIQUE ( CID, EID, AID )
94  );
```

3   Remarks

– Athletes is the entity that stores the information of an athlete who can then participate in
  multiple sports or games. Which means that if an Athele competes twice he will have only one
  entry in the ATHLETE table but two in the PARTICIPANTS table.
– Each game should at least have one event otherwise soothing happened during he games. The
  same applies to sports, a sport must have at least one participant, other wise the sport never
  took place during any games.
– Countries, sports and disciplines must have a unique name as the opposite would have no
  sense. For games it is the pair YEAR,TYPE that must be unique.
– Due to problem with their federations some athletes may present themselves without repre-
  senting a country.
– Some medals could not be associated to a country as some athletes aren't as for the above
  point.
– The numbers of countries, athletes and events for a given game isn't stored in the GAMES
  entity as they can be easily computed using some COUNT query.
– The names of the events, disciplines and games are not stored as they are only the concatena-
  tion of information stored in other tables.