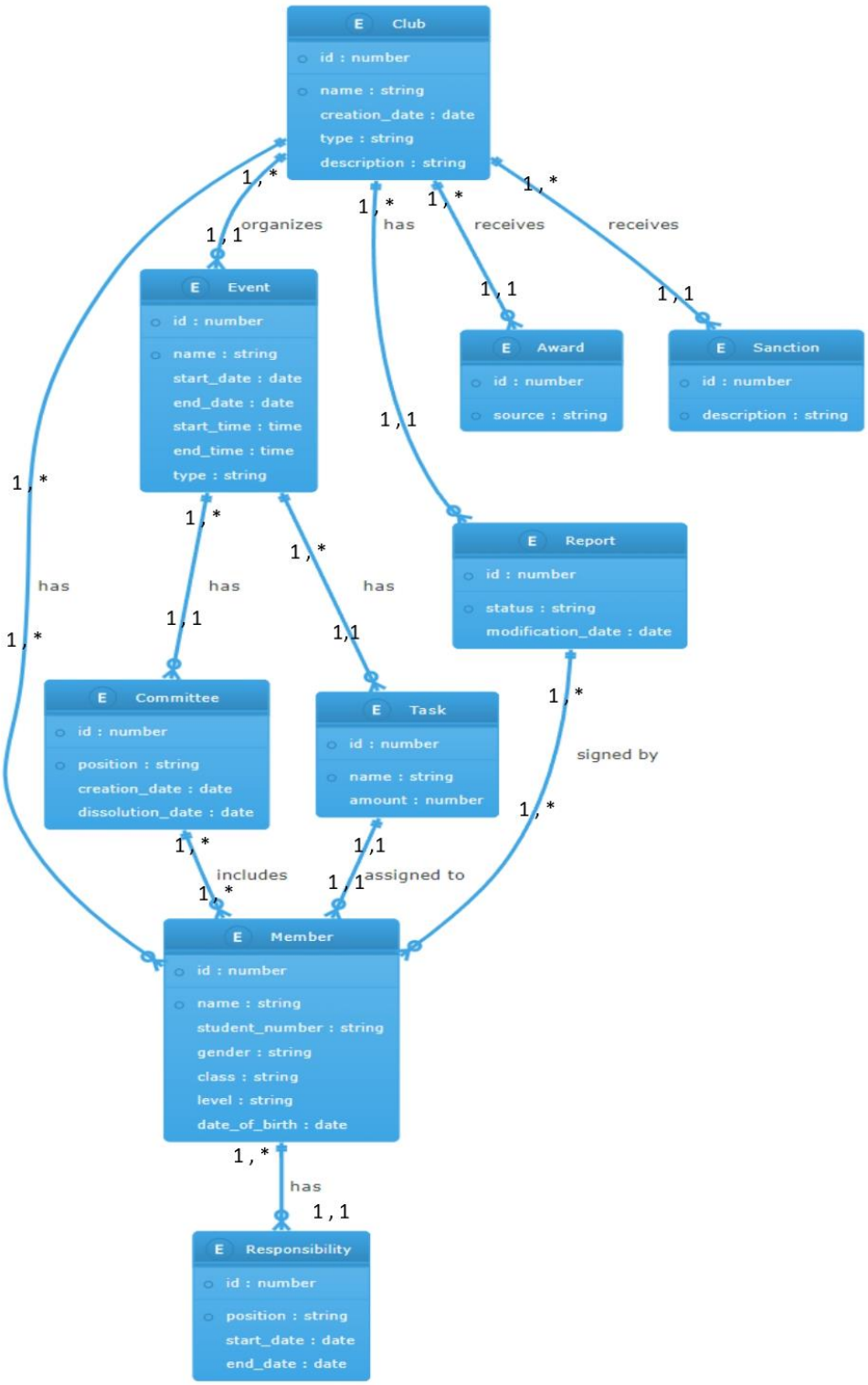
DOHA HAJJOU

Rahma ALBEKBASHY

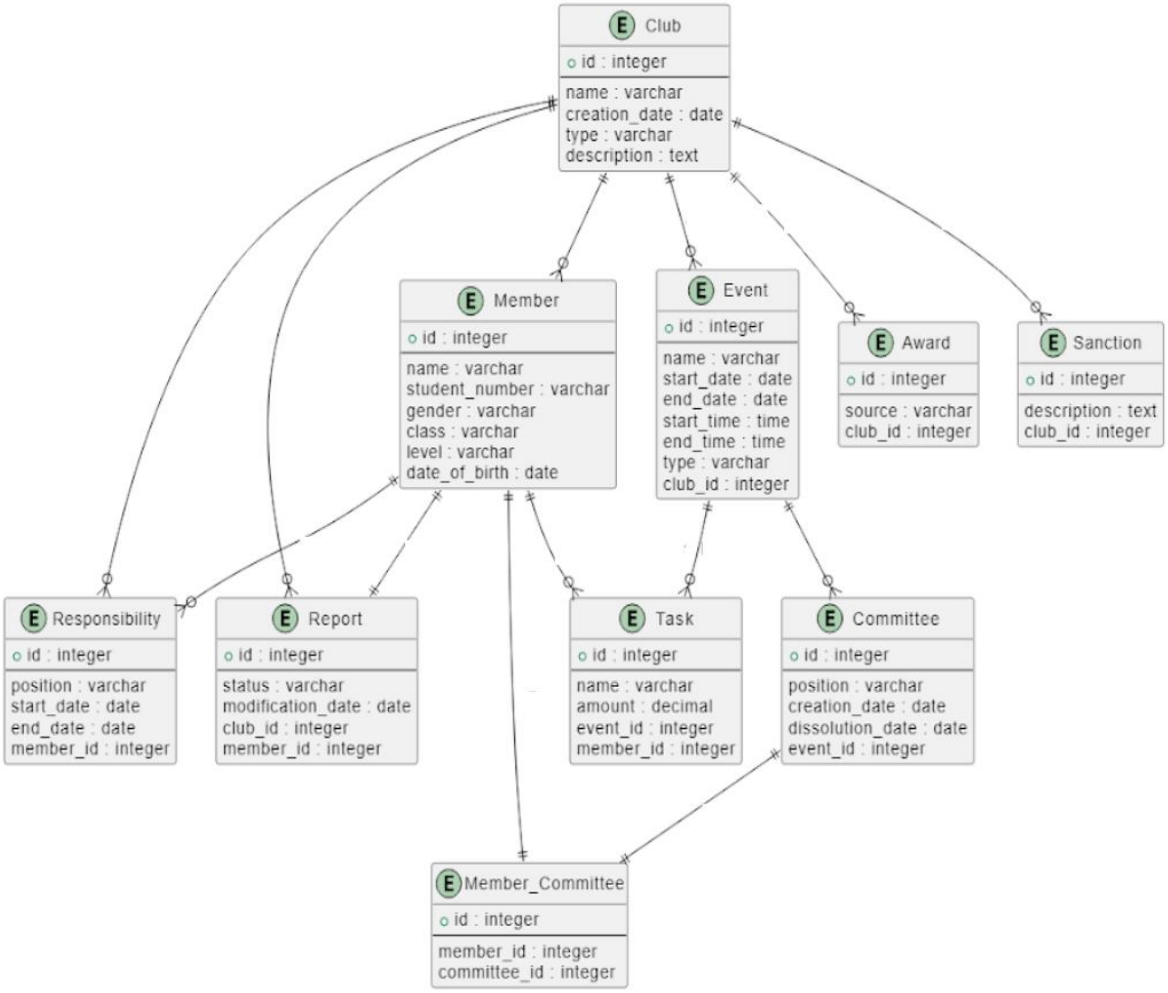
Part 1

1. Using your favorite design tool, make the conceptual model and then generate the relational schema for this application

the conceptual model (Doha HAJJOU).


Club
id : number
name : string
creation_date : date
type : string
description : string
Event
id : number
name : string
start_date : date
end_date : date
start_time : time
end_time : time
type : string
Award
id : number
source : string
Sanction
id : number
description : string
Report
id : number
status : string
modification_date : date
Committee
id : number
position : string
creation_date : date
dissolution_date : date
Task
id : number
name : string
amount : number
Member
id : number
name : string
student_number : string
gender : string
class : string
level : string
date_of_birth : date
Responsibility
id : number
position : string
start_date : date
end_date : date
organizes
has
receives
receives
has
has
has
has
includes
assigned to
signed by
1 , *
1 , 1
1,1
1,*

the relational schema(Rahma ALBEKBASHY)



2. Check that your diagram respects the first three normal forms. (1 pt)

First normal form (1FN)

- A relation is in 1st Normal Form (1NF) if and only if all its attributes are atomic (non-compound and mono-valued).

3. Create a new MySQL database with the name (clubs_efrei) and inject the SQL script. Doha Hajjou && Rahma ALBEKBASHY)

```
CREATE DATABASE clubs_efrei;
USE clubs_efrei;

CREATE TABLE Club (
   id INT AUTO_INCREMENT,
   name VARCHAR(255),
   creation_date DATE,
   type VARCHAR(255),
   description TEXT,
   PRIMARY KEY (id)
);

CREATE TABLE Member (
   id INT AUTO_INCREMENT,
   name VARCHAR(255),
   student_number VARCHAR(255),
   gender VARCHAR(255),
   class VARCHAR(255),
   level VARCHAR(255),
   date_of_birth DATE,
   PRIMARY KEY (id)
);
```

```
CREATE TABLE Responsibility (
  id INT AUTO_INCREMENT,
  position VARCHAR(255),
  start_date DATE,
  end_date DATE,
  member_id INT,
  PRIMARY KEY (id),
  FOREIGN KEY (member_id) REFERENCES Member(id)
);

CREATE TABLE Event (
  id INT AUTO_INCREMENT,
  name VARCHAR(255),
  start_date DATE,
  end_date DATE,
  start_time TIME,
  end_time TIME,
  type VARCHAR(255),
  club_id INT,
  PRIMARY KEY (id),
  FOREIGN KEY (club_id) REFERENCES Club(id)
);

  CREATE TABLE Committee (
    id INT AUTO_INCREMENT,
    position VARCHAR(255),
    creation_date DATE,
    dissolution_date DATE,
    event_id INT,
    PRIMARY KEY (id),
    FOREIGN KEY (event_id) REFERENCES Event(id)
  );

  CREATE TABLE Member_Committee (
    id INT AUTO_INCREMENT,
    member_id INT,
    committee_id INT,
    PRIMARY KEY (id),
    FOREIGN KEY (member_id) REFERENCES Member(id),
    FOREIGN KEY (committee_id) REFERENCES
  Committee(id)
  );
```

```
  CREATE TABLE Task (
    id INT AUTO_INCREMENT,
    name VARCHAR(255),
    amount DECIMAL(10,2),
    event_id INT,
    member_id INT,
    PRIMARY KEY (id),
    FOREIGN KEY (event_id) REFERENCES Event(id),
    FOREIGN KEY (member_id) REFERENCES Member(id)
  );

  CREATE TABLE Report (
    id INT AUTO_INCREMENT,
    status VARCHAR(255),
    modification_date DATE,
    club_id INT,
    member_id INT,
    PRIMARY KEY (id),
    FOREIGN KEY (club_id) REFERENCES Club(id),
    FOREIGN KEY (member_id) REFERENCES Member(id)
  );


CREATE TABLE Award (
  id INT AUTO_INCREMENT,
  source VARCHAR(255),
  club_id INT,
  PRIMARY KEY (id),
  FOREIGN KEY (club_id) REFERENCES Club(id)
);

CREATE TABLE Sanction (
  id INT AUTO_INCREMENT,
  description TEXT,
  club_id INT,
  PRIMARY KEY (id),
  FOREIGN KEY (club_id) REFERENCES Club(id)
);
```

. Test data (1 pt)

Create a script that inserts a consistent and representative test set (dummy test data). Each table must contain at least 10 consistent records (this script must be included in your rendering).

Doha Hajjou && Rahma ALBEKBASHY)

```
USE clubs_efrei;

INSERT INTO Club (name, creation_date, type,
description)
VALUES
('Club 1', '2020-01-01', 'Cultural', 'This is a cultural
club.'),
('Club 2', '2020-02-01', 'Technical', 'This is a technical
club.'),
('Club 3', '2020-03-01', 'Sports', 'This is a sports club.'),
('Club 4', '2020-04-01', 'Entrepreneurial', 'This is an
entrepreneurial club.'),
('Club 5', '2020-05-01', 'Cultural', 'This is another
cultural club.'),
('Club 6', '2020-06-01', 'Technical', 'This is another
technical club.'),
('Club 7', '2020-07-01', 'Sports', 'This is another sports
club.'),
('Club 8', '2020-08-01', 'Entrepreneurial', 'This is
another entrepreneurial club.'),
('Club 9', '2020-09-01', 'Cultural', 'This is yet another
cultural club.'),
('Club 10', '2020-10-01', 'Technical', 'This is yet another
technical club.');
```

```
INSERT INTO Member (name, student_number, gender,
class, level, date_of_birth)
VALUES
('Member 1', 'S001', 'Male', 'Class 1', 'Level 1', '2000-01-
01'),
('Member 2', 'S002', 'Female', 'Class 2', 'Level 2', '2000-
02-02'),
('Member 3', 'S003', 'Male', 'Class 3', 'Level 3', '2000-
03-03'),
('Member 4', 'S004', 'Female', 'Class 4', 'Level 4', '2000-
04-04'),
('Member 5', 'S005', 'Male', 'Class 5', 'Level 5', '2000-
05-05'),
('Member 6', 'S006', 'Female', 'Class 6', 'Level 6', '2000-
06-06'),
('Member 7', 'S007', 'Male', 'Class 7', 'Level 7', '2000-
07-07'),
('Member 8', 'S008', 'Female', 'Class 8', 'Level 8', '2000-
08-08'),
('Member 9', 'S009', 'Male', 'Class 9', 'Level 9', '2000-
09-09'),
('Member 10', 'S010', 'Female', 'Class 10', 'Level 10',
'2000-10-10');
```