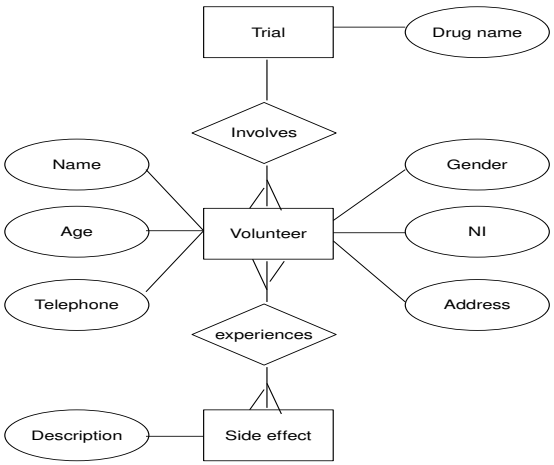
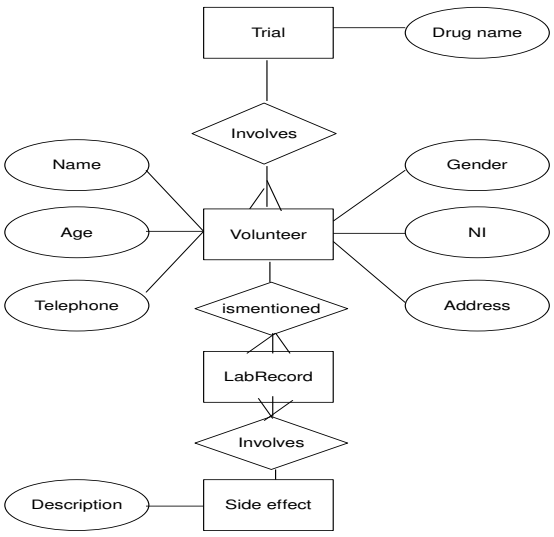
G51DBS 2009-2010 coursework 1: model answer.

1. There are several different correct answers possible for the ER diagram. I give two below, both presuppose that we only have the Trial entity. It is also possible to have a Drug entity with a 1:1 relationaship to Trial and an attribute DrugName. The first diagram contains a M:M relationship:



In the second diagram, this relationship has been eliminated:



2. I asked for table descriptions in English, but since then we learned SQL, so here they go in SQL:

```
CREATE TABLE Trial  (
   drugname VARCHAR(50) NOT NULL,
   CONSTRAINT pk_trial  PRIMARY KEY (drugname)
);
CREATE TABLE Volunteer  (
   ni INT NOT NULL,
   name VARCHAR(50) NOT NULL,
   age INT,
   gender CHAR(1),
   address VARCHAR(50),
   telephone  VARCHAR(11),
   drugname VARCHAR(50),
   CONSTRAINT pk_volunteer  PRIMARY KEY (ni),
   CONSTRAINT fk_pTr  FOREIGN KEY (drugname) REFERENCES Trial
);

CREATE TABLE SideEffect (
   description VARCHAR(100) NOT NULL,
   CONSTRAINT pk_sideeffect PRIMARY KEY(description)
);


CREATE TABLE LabRecord (
   description VARCHAR(100) NOT NULL,
   ni INT NOT NULL,
   CONSTRAINT pk_LabRecord PRIMARY KEY(description, ni),
   CONSTRAINT fk_sV  FOREIGN KEY (description) REFERENCES Sideeffect,
   CONSTRAINT fk_sV  FOREIGN KEY (ni) REFERENCES Volunteer
);
```