Database Systems: Exam 1 Figures

Figure 3.7

Referential integrity constraints displayed on the COMPANY relational database schema.

Figure 1: Schema diagram for the Clicker database.
Figure 2: SQL DDL statements for the Clicker database.

```sql
create table Student (
    Name   Varchar(100) not null,
    Id     Integer not null primary key,
    Major  Varchar(5),
    Year   Char
);

create table Clicker (
    Cid     Integer not null primary key,
    Version Integer,   -- will be 1 or 2
    Student Integer,   -- may be null if not registered to a student
    constraint ClickReg
        foreign key (Student) references Student(Id)
);

create domain Qanswer as Char;

create table Question (
    Session Varchar(20) not null,  -- questions are grouped into 'Sessions'
    Number  Integer not null,      -- each question in a session is numbered
    Answer  Qanswer,               -- the correct answer
    Points  Decimal(4,2),          -- how many points this question is worth
    primary key (Session, Number)
);

-- custom type for a question's answer; one of: {A, B, C, D, E}
create table Responses (  
    Cid Integer not null,  
    Sid Varchar(20) not null,  -- half the foreign key referencing the question 
    Qnum Integer not null,  -- other half of the question reference 
    When Timestamp,
    Response Qanswer,      -- the student's answer
    primary key (Cid, Sid, Qnum), 
    foreign key (Sid, Qnum) references Question(Session, Number), 
    foreign key (Cid) references Clicker(Cid)
);
```