Section 3 Worksheet

Part 1. Movies and Directors

```
CREATE TABLE Movie (
  movie_name VARCHAR(75),
  movie_id INT,
  director_id INT,
  year_released INT,
  budget INT,
  PRIMARY KEY(movie_id),
  FOREIGN KEY(director_id) REFERENCES Director(director_id)
);

CREATE TABLE Director (
  director_id INT,
  director_name VARCHAR(75),
  director_country VARCHAR(75),
  PRIMARY KEY(director_id)
);
```

1. **Find the id and name of all directors who have directed more than 20 movies.**

2. **For each director, find a corresponding movie that has their highest budget.**

Part 2: Classes and Instructors

```
CREATE TABLE Class (
  dept VARCHAR(6),
  number INTEGER,
  title VARCHAR(75),
  PRIMARY KEY (dept, number)
);

CREATE TABLE Instructor (
  username VARCHAR(8),
  fname VARCHAR(50),
  lname VARCHAR(50),
  started_on CHAR(10),
  PRIMARY KEY (username)
);

CREATE TABLE Teaches (
  username VARCHAR(8),
  dept VARCHAR(6),
  number INTEGER,
  PRIMARY KEY (username, dept, number),
  FOREIGN KEY (username) REFERENCES Instructor(username),
  FOREIGN KEY (dept, number) REFERENCES Class(dept, number)
);
```

1. **How many classes are being taught by at least one instructor?**

2. **Which instructors teach more than 1 class? Give the username, first name, and last name of these instructors.**

3. **Which CSE courses do neither Dr. Levy (‘levy’) nor Dr. Wetherall (‘djw’) teach? Give the department, number, and title of these courses.**