

Project Part 3

1. Create Tables

```
CREATE TABLE person(SSN integer primary key, name VARCHAR(10), phoneNum integer,
occupation VARCHAR(10));
CREATE TABLE student(studentID integer primary key, classLevel integer, phoneNum integer,
inClub, char(1), hasJob char(1));
CREATE TABLE faculty(facultyID integer primary key, officeNum integer, phoneNum integer);

CREATE TABLE course(courseNum integer primary key, name VARCHAR(10), department
VARCHAR(10), instructor VARCHAR(10), enrollment integer);
CREATE TABLE department(departmentID integer primary key, name VARCHAR(10));

CREATE TABLE club(name VARCHAR(10) primarykey, numOfMems integer);
CREATE TABLE partTimeJob(employeeID integer primary key, numHours integer);
```

2. Insert into Tables

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INSERT INTO person values(111111111, 'John Doe', 1234567890, 'student');
INSERT INTO person values(222222222, 'Jane Doe', 2234126784, 'student');
INSERT INTO person values(333333333, 'Mary Francis', 9431657735, 'faculty');
INSERT INTO person values(444444444, 'Harry Smith', 8506437729, 'faculty');
INSERT INTO person values(555555555, 'Abby Thomson', 3214596632, 'student');
INSERT INTO person values(777777777, 'Andrew Johnson', 9864351139, 'faculty');

INSERT INTO student(name, phoneNum) SELECT name, phoneNum from person WHERE
occupation='student';
INSERT INTO faculty(name, phoneNum) SELECT name, phoneNum from person WHERE
occupation='student';
```

Select * from person;

Person Table:

	SSN	Name	Phone Number	Occupation
Person 1	111111111	John Doe	1234567890	student
Person 2	222222222	Jane Doe	2234126784	student
Person 3	333333333	Mary Francis	9431657735	faculty
Person 4	444444444	Harry Smith	8506437729	faculty
Person 5	555555555	Abby Thomson	3214596632	student
Person 6	777777777	Andrew Johnson	9864351139	faculty

Select * from student;

Student Table:

	SSN	Name	Phone Number	Occupation
Person 1	111111111	John Doe	1234567890	student
Person 2	222222222	Jane Doe	2234126784	student
Person 5	555555555	Abby Thomson	3214596632	student

Select * from faculty

Faculty Table:

	SSN	Name	Phone Number	Occupation
Person 3	333333333	Mary Francis	9431657735	faculty
Person 4	444444444	Harry Smith	8506437729	faculty
Person 6	777777777	Andrew Johnson	9864351139	faculty

INSERT INTO course values(3014, 'Program Design', 110701, 'Davis', 20);

INSERT INTO course values(4710, 'Databases', 110701, 'Jones', 20);

INSERT INTO course values(2311, 'Calculus I', 270101, 'Garcia', 40);

INSERT INTO course values(2312, 'Calculus II', 270101, 'Garcia', 40);

INSERT INTO department(departmentID, name) SELECT departmentID, name from course
WHERE department.departmentID= departmentID;

Select * from course;

Course Table:

	Course Number	Name	Department Number	Instructor	Enrollment
Course 1	3014	Program Design	110701	Davis	20
Course 2	4710	Databases	110701	Jones	20
Course 3	2311	Calculus I	270101	Garcia	40
Course 4	2312	Calculus II	270101	Garcia	40

Select * from department WHERE departmentID=110701;

Department 110701 Table

	Course Number	Name	Department Number
Course 1	3014	Program Design	110701
Course 2	4710	Databases	110701

Select * from department WHERE departmentID=270101;

Department 270101 Table

	Course Number	Name	Department Number
Course 3	2311	Calculus I	270101
Course 4	2312	Calculus II	270101

INSERT INTO club values('Cyber Club', 150);

INSERT INTO partTimeJob values('Desk Attendant", 20);

ALTER TABLE student ADD inClub char(1);

UPDATE student SET inClub='y' WHERE name='John Doe';

UPDATE student SET inClub='n' WHERE name='Jane Doe';

UPDATE student SET inClub='y' WHERE name='Abby Thomson';

ALTER TABLE student ADD hasJob char(1);

UPDATE student SET hasJob='y' WHERE name='Abby Thomson';

UPDATE student SET hasJob='y' WHERE name='Jane Doe';

UPDATE student SET hasJob='n' WHERE name='John Doe';

Select * from club;

Club Table:

	SSN	Name	Phone Number	Occupation	inClub	hasJob
Person 1	111111111	John Doe	1234567890	student	Y	N
Person 2	222222222	Jane Doe	2234126784	student	N	Y
Person 5	555555555	Abby Thomson	3214596632	student	y	Y

Select * from partTimeJob;

Part Time Job Table:

	SSN	Name	Phone Number	Occupation	inClub	hasJob
Person 1	111111111	John Doe	1234567890	student	Y	N
Person 2	222222222	Jane Doe	2234126784	student	N	Y
Person 5	555555555	Abby Thomson	3214596632	student	y	Y

Select * from student;

Student Table:

	SSN	Name	Phone Number	Occupation	inClub	hasJob
Person 1	111111111	John Doe	1234567890	student	Y	N
Person 2	222222222	Jane Doe	2234126784	student	N	Y

Person 5	555555555	Abby Thomson	3214596632	student	y	Y
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INSERT INTO club(name) SELECT name from student WHERE inClub='y';
 INSERT INTO partTimeJob(name) SELECT name from student WHERE hasJob='y';

Club Table:

	Name	Number of Members
Club 1	Cyber Club	150

Part Time Job Table:

	Name	Number of Hours
Job 1	Desk Attendant	20

3. Write and answer some (at least five) “reasonable” queries for your database

- Print the total number of students each course has.
 SELECT COUNT(enrollment) FROM course GROUP BY course.name;
- Print the name and grade of all students enrolled in a class taught by a specific professor.
 SELECT student.name, student.grade FROM student INNER JOIN
 course.courseNumber = student.course.courseNumber WHERE course.instructor =
 'Garcia';
- Print courses from a specific department and taught by a specific instructor.
 SELECT * FROM course WHERE instructor = 'Garcia' AND departmentID = 270101;
- Print the name of all students and their names part of a specific club
 SELECT * FROM student WHERE student.inClub.name = 'Cyber Club';
- Print the average number of hours worked by all of the students
 SELECT AVG(numOfHours) FROM partTimeJob where student.hasJob='y';