

CS 687 - Database Systems

October 25, 2016

**Prepared by
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**Prepared for
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(CS 687) (FALL 2016)**

Creation of the database

1. Creation of database schema:

```
CREATE SCHEMA ADAMBRYEGOWDA;
```

2. Creation of the database tables:

```
CREATE TABLE ADAMBRYEGOWDA.EMPLOYEE (  
  Fname      VARCHAR(15)  NOT NULL,  
  Minit      CHAR,  
  Lname      VARCHAR(15)  NOT NULL,  
  Ssn        CHAR(9)      NOT NULL,  
  Bdate      DATE,  
  Address    VARCHAR(30),  
  Sex        CHAR,  
  Salary     DECIMAL(10,2),  
  Super_ssn  CHAR(9),  
  Dno        INT          NOT NULL DEFAULT 1,  
  PRIMARY KEY (Ssn));
```

Snapshot of the inserted tuples after creation of the ADAMBRYEGOWDA.EMPLOYEE table:

```
cs687=> select * from adambryegowda.employee;  
cs687=> select * from adambryegowda.employee;  
  fname | minit | lname |  ssn  |  bdate  |      address      | sex |  salary  | super_ssn | dno  
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----  
John    | B     | Smith | 123456789 | 1965-01-09 | 731 Fondren, Houston, TX | M   | 30000.00 | 333445555 | 5  
Franklin | T     | Wong  | 333445555 | 1955-12-08 | 638 Voss, Houston, TX   | M   | 40000.00 | 888665555 | 5  
Alicia  | J     | Zelaya | 999887777 | 1968-01-19 | 3321 Castle, Spring, TX | F   | 25000.00 | 987654321 | 4  
Jennifer | S     | Wallace | 987654321 | 1941-06-20 | 291 Berry, Bellaire, TX | F   | 43000.00 | 888665555 | 4  
Ramesh  | K     | Narayana | 666884444 | 1962-09-15 | 975 Fire Oak, Humble, TX | M   | 38000.00 | 333445555 | 5  
Joyce   | A     | English | 453453453 | 1972-07-31 | 5631 Rice, Houston, TX  | F   | 25000.00 | 333445555 | 5  
Ahmad   | V     | Jabbar | 987987987 | 1969-03-29 | 980 Dallas, Houston, TX | M   | 25000.00 | 987654321 | 4  
James   | E     | Borg   | 888665555 | 1937-11-10 | 450 Stone, Houston, TX  | M   | 55000.00 | NULL      | 1  
(8 rows)
```

```
CREATE TABLE ADAMBRYEGOWDA.DEPARTMENT (  
  Dname      VARCHAR(15)  NOT NULL,  
  Dnumber    INT          NOT NULL,  
  Mgr_ssn    CHAR(9)      NOT NULL,  
  Mgr_start_date DATE,  
  PRIMARY KEY (Dnumber),  
  UNIQUE (Dname),  
  FOREIGN KEY (Mgr_ssn) REFERENCES ADAMBRYEGOWDA.EMPLOYEE(Ssn) );
```

Snapshot of the inserted tuples after creation of the ADAMBRYEGOWDA.DEPARTMENT table:

```
cs687=> select * from adambryegowda.department;
  dname      | dnumber | mgr_ssn | mgr_start_date
-----+-----+-----+-----
  Research   |        5 | 333445555 | 1988-05-22
  Administration |        4 | 987654321 | 1995-01-01
  Headquarters |        1 | 888665555 | 1981-06-19
(3 rows)
```

```
CREATE TABLE ADAMBRYEGOWDA.DEPT_LOCATIONS (
Dnumber      INT          NOT NULL,
Dlocation     VARCHAR(15) NOT NULL,
PRIMARY KEY (Dnumber, Dlocation),
FOREIGN KEY (Dnumber) REFERENCES ADAMBRYEGOWDA.DEPARTMENT(Dnumber) );
```

Snapshot of the inserted tuples after creation of the ADAMBRYEGOWDA.DEPT_LOCATIONS table:

```
cs687=> select * from adambryegowda.dept_locations;
  dnumber | dlocation
-----+-----
        1 | Houston
        5 | Sugarland
        5 | Houston
        4 | Stafford
        5 | Bellaire
(5 rows)
```

```
CREATE TABLE ADAMBRYEGOWDA.PROJECT (
Pname        VARCHAR(15) NOT NULL,
Pnumber      INT          NOT NULL,
Plocation     VARCHAR(15),
Dnum         INT          NOT NULL,
PRIMARY KEY (Pnumber),
UNIQUE (Pname),
FOREIGN KEY (Dnum) REFERENCES ADAMBRYEGOWDA.DEPARTMENT(Dnumber) );
```

Snapshot of the inserted tuples after creation of the ADAMBRYEGOWDA.PROJECT table:

```
cs687=> select * from adambryegowda.project;
  pname      | pnumber | plocation | dnum
-----+-----+-----+-----
  ProductX   |        1 | Bellaire  |    5
  Producty   |        2 | Sugarland |    5
  ProductZ    |        3 | Houston   |    5
  Computerization |      10 | Stafford  |    4
  Reorganization |      20 | Houston   |    1
  Newbenefits |      30 | Stafford  |    4
(6 rows)
```

```
CREATE TABLE ADAMBRYEGOWDA.WORKS_ON (
Essn          CHAR(9)          NOT NULL,
Pno           INT              NOT NULL,
Hours         DECIMAL(3,1)     NOT NULL,
PRIMARY KEY (Essn, Pno),
FOREIGN KEY (Essn) REFERENCES ADAMBRYEGOWDA.EMPLOYEE(Ssn),
FOREIGN KEY (Pno) REFERENCES ADAMBRYEGOWDA.PROJECT(Pnumber) );
```

Snapshot of the inserted tuples after creation of the ADAMBRYEGOWDA.WORKS_ON table:

```
cs687=> insert into adambryegowda.WORKS_ON values('333445555',20,'10');
INSERT 0 1
cs687=> select * from adambryegowda.works_on;
```

essn	pno	hours
123456789	1	32.5
123456789	2	7.5
666884444	3	40.0
453453453	1	20.0
453453453	2	20.0
333445555	2	10.0
333445555	3	10.0
333445555	10	10.0
999887777	30	30.0
999887777	10	10.0
987987987	10	35.0
987987987	30	5.0
987654321	30	20.0
987654321	20	15.0
333445555	20	10.0

```
(15 rows)
```

```
CREATE TABLE ADAMBRYEGOWDA.DEPENDENT (
Essn          CHAR(9)          NOT NULL,
Dependent_name VARCHAR(15)     NOT NULL,
Sex           CHAR,
Bdate         DATE,
Relationship   VARCHAR(8),
PRIMARY KEY (Essn, Dependent_name),
FOREIGN KEY (Essn) REFERENCES ADAMBRYEGOWDA.EMPLOYEE(Ssn) );
```

Snapshot of the inserted tuples after creation of the ADAMBRYEGOWDA.DEPENDENT table:

```
cs687=> select * from adambryegowda.dependent;
  essn      | dependent_name | sex |   bdate   | relationship
-----+-----+-----+-----+-----
 333445555 | Alice          | F   | 1986-04-05 | Daughter
 333445555 | Theodore      | M   | 1983-10-25 | Son
 333445555 | Joy            | F   | 1958-05-03 | Spouse
 987654321 | Abner          | M   | 1942-02-28 | Spouse
 123456789 | Michael       | M   | 1988-01-04 | Son
 123456789 | Alice         | F   | 1988-12-30 | Daughter
 123456789 | Elizabeth     | F   | 1967-05-05 | Spouse
(7 rows)

cs687=> █
```

Team Members and responsibilities:

1. Aadil Ahmed Adam – Creation of Database as “aa0079” login, query 1, query 2, Formulation of the document.
2. Poornima Byre Gowda- Creation of the Database as “pg0018” login, query 2 and query 3, snapshots of the tuples and formatting the source code with comments.

Meeting Days:

October 12, 2016 – Discussion of the basic requirements of the project and getting familiar with embedded SQL sample code given on canvas.

October 13, 2016- Creation of the database schema and creation of the tables.

October 15, 2016 – Insertion the tuples into the tables.

October 18, 2016- Discussion of query 1 and query 2

October 20, 2016 – Discussion of insert/delete/update query.

October 22, 2016 – Checking the overall working of the program and discussion about the query concerning update and delete operations.

October 24, 2016 – Formulation of the formal Document and insertion of snapshots of the inserted tuples.
