CREATE TABLE classroom(building varchar(40), room\_number int, capacity int);

CREATE TABLE department(dept\_name varchar(40), building varchar(40), budget int);

CREATE TABLE course(course\_id varchar(40), title varchar(40), dept\_name varchar(40), credits int);

CREATE TABLE instructor(ID int, name varchar(40), dept\_name varchar(40), credits int);

CREATE TABLE section(course\_id varchar(40), sec\_id int, semester varchar(40), year int, building varchar(40), room\_number int, time\_slot\_id varchar(40));

CREATE TABLE teaches(ID int,course\_id varchar(40),sec\_id int,semester varchar(40),year int);

CREATE TABLE student(ID int, name varchar(40), dept\_name varchar(40), total\_cred int);

CREATE TABLE takes(ID int, course\_id varchar(40), sec\_id int, semester varchar(20),year int,grade varchar(40));

CREATE TABLE advisor(s\_ID int,i\_ID int);

CREATE TABLE time\_slot(time\_slot\_id varchar(40), day varchar(20), start\_time varchar(20),end\_time varchar(20));

CREATE TABLE prereq(course\_id varchar(20),prereq\_id varchar(20));

INSERT INTO classroom VALUES('Packard',101,500);

INSERT INTO classroom VALUES('Painter',514,10);

INSERT INTO classroom VALUES('Taylor',3128,70);

INSERT INTO classroom VALUES('Watson',100,30);

INSERT INTO classroom VALUES('Watson',120,50);

INSERT INTO department VALUES('Biology','Watson',90000);

INSERT INTO department VALUES('Comp. Sci','Taylor',100000);

INSERT INTO department VALUES('Elec. Eng.','Taylor',85000);

INSERT INTO department VALUES('Finance','Painter',120000);

INSERT INTO department VALUES('History','Painter',50000);

INSERT INTO department VALUES('Music','Packard',80000);

INSERT INTO department VALUES('Physics','Watson',70000);

INSERT INTO course VALUES('BIO-101', 'Intro. to Biology','Biology',4);

INSERT INTO course VALUES('BIO-301', 'Genetics','Biology',4);

INSERT INTO course VALUES('BIO-399', 'Computational Biology','Biology',3);

INSERT INTO course VALUES('CS-101', 'Intro. to Computer Science','Comp. Sci.',4);

INSERT INTO course VALUES('CS-190', 'Game Design','Comp. Sci.',4);

INSERT INTO course VALUES('CS-315', 'Robotics','Comp. Sci.',3);

INSERT INTO course VALUES('CS-319', 'Image Processing','Comp. Sci.',3);

INSERT INTO course VALUES('CS-347', 'Database System Concepts','Comp. Sci.',3);

INSERT INTO course VALUES('EE-181', 'Intro. to Digital Systems','Elec. Eng.',3);

INSERT INTO course VALUES('FIN-201', 'Investment Banking','Finance',3);

INSERT INTO course VALUES('HIS-351', 'World History','History',3);

INSERT INTO course VALUES('MU-199', 'Music Video Production','Music',3);

INSERT INTO course VALUES('PHY-101', 'Physics Principles','Physics',4);

INSERT INTO instructor VALUES(10101, 'Srinivasan','Comp. Sci.',65000);

INSERT INTO instructor VALUES(12121, 'Wu','Finance',90000);

INSERT INTO instructor VALUES(15151, 'Mozart','Music',40000);

INSERT INTO instructor VALUES(22222, 'Einstein','Physics',95000);

INSERT INTO instructor VALUES(32343, 'El Said','History',60000);

INSERT INTO instructor VALUES(33456, 'Gold','Physics',87000);

INSERT INTO instructor VALUES(45565, 'Katz','Comp. Sci.',75000);

INSERT INTO instructor VALUES(58583, 'Califieri','History',62000);

INSERT INTO instructor VALUES(76543, 'Singh','Finance',80000);

INSERT INTO instructor VALUES(76766, 'Crick','Biology',72000);

INSERT INTO instructor VALUES(83821, 'Brandt','Comp. Sci.',92000);

INSERT INTO instructor VALUES(98345, 'Kim','Elec. Eng.',80000);

INSERT INTO section VALUES('BIO-101',1,'Summer',2009,'Painter',514,'B');

INSERT INTO section VALUES('BIO-301',1,'Summer',2010,'Painter',514,'A');

INSERT INTO section VALUES('CS-101',1,'Fall',2009,'Packard',101,'H');

INSERT INTO section VALUES('CS-101',1,'Spring',2010,'Packard',101,'F');

INSERT INTO section VALUES('CS-190',1,'Spring',2009,'Taylor',3128,'E');

INSERT INTO section VALUES('CS-190',2,'Spring',2009,'Taylor',3128,'A');

INSERT INTO section VALUES('CS-315',1,'Spring',2010,'Watson',120,'D');

INSERT INTO section VALUES('CS-319',1,'Spring',2010,'Watson',100,'B');

INSERT INTO section VALUES('CS-319',2,'Spring',2010,'Taylor',3128,'C');

INSERT INTO section VALUES('CS-347',1,'Fall',2009,'Taylor',3128,'A');

INSERT INTO section VALUES('EE-181',1,'Spring',2009,'Taylor',3128,'C');

INSERT INTO section VALUES('FIN-201',1,'Spring',2010,'Packard',101,'B');

INSERT INTO section VALUES('HIS-351',1,'Spring',2010,'Painter',514,'C');

INSERT INTO section VALUES('MU-199',1,'Spring',2010,'Packard',101,'D');

INSERT INTO section VALUES('PHY-101',1,'Fall',2009,'Watson',100,'A');

INSERT INTO time\_slot VALUES('A', 'M','8:00','8:50');

INSERT INTO time\_slot VALUES('A', 'W','8:00','8:50');

INSERT INTO time\_slot VALUES('A', 'F','8:00','8:50');

INSERT INTO time\_slot VALUES('B', 'M','9:00','9:50');

INSERT INTO time\_slot VALUES('B', 'W','9:00','9:50');

INSERT INTO time\_slot VALUES('B', 'F','9:00','9:50');

INSERT INTO time\_slot VALUES('C', 'M','11:00','11:50');

INSERT INTO time\_slot VALUES('C', 'W','11:00','11:50');

INSERT INTO time\_slot VALUES('C', 'F','11:00','11:50');

INSERT INTO time\_slot VALUES('D', 'M','13:00','13:50');

INSERT INTO time\_slot VALUES('D', 'W','13:00','13:50');

INSERT INTO time\_slot VALUES('D', 'F','13:00','13:50');

INSERT INTO time\_slot VALUES('E', 'T','10:30','11:45');

INSERT INTO time\_slot VALUES('E', 'R','10:30','11:45');

INSERT INTO time\_slot VALUES('F', 'T','2:30','3:45');

INSERT INTO time\_slot VALUES('F', 'R','2:30','3:45');

INSERT INTO time\_slot VALUES('G', 'M','16:00','16:50');

INSERT INTO time\_slot VALUES('G', 'W','16:00','16:50');

INSERT INTO time\_slot VALUES('G', 'F','16:00','16:50');

INSERT INTO time\_slot VALUES('H', 'M','10:00','12:30');

INSERT INTO advisor VALUES(00128,45565);

INSERT INTO advisor VALUES(12345,10101);

INSERT INTO advisor VALUES(23121,76543);

INSERT INTO advisor VALUES(45553,22222);

INSERT INTO advisor VALUES(45678,22222);

INSERT INTO advisor VALUES(76543,45565);

INSERT INTO advisor VALUES(76653,98345);

INSERT INTO advisor VALUES(98765,98345);

INSERT INTO advisor VALUES(98988,76766);

INSERT INTO prereq VALUES('BIO-301','BIO-101');

INSERT INTO prereq VALUES('BIO-399','BIO-101');

INSERT INTO prereq VALUES('CS-109','CS-101');

INSERT INTO prereq VALUES('CS-315','CS-101');

INSERT INTO prereq VALUES('CS-319','CS-101');

INSERT INTO prereq VALUES('CS-347','CS-101');

INSERT INTO prereq VALUES('EE-181','PHY-101');

INSERT INTO takes VALUES(00128,'CS-101',1,'Fall',2009,'A');

INSERT INTO takes VALUES(00128,'CS-347',1,'Fall',2009,'A-');

INSERT INTO takes VALUES(12345,'CS-101',1,'Fall',2009,'C');

INSERT INTO takes VALUES(12345,'CS-190',2,'Spring',2009,'A');

INSERT INTO takes VALUES(12345,'CS-315',1,'Spring',2010,'A');

INSERT INTO takes VALUES(12345,'CS-347',1,'Fall',2009,'A');

INSERT INTO takes VALUES(19991,'HIS-351',1,'Spring',2010,'B');

INSERT INTO takes VALUES(23121,'FIN-201',1,'Spring',2010,'C+');

INSERT INTO takes VALUES(44553,'PHY-101',1,'Fall',2009,'B-');

INSERT INTO takes VALUES(45678,'CS-101',1,'Fall',2009,'F');

INSERT INTO takes VALUES(45678,'CS-101',1,'Spring',2010,'B+');

INSERT INTO takes VALUES(45678,'CS-319',1,'Spring',2010,'B');

INSERT INTO takes VALUES(54321,'CS-101',1,'Fall',2009,'A-');

INSERT INTO takes VALUES(54321,'CS-190',2,'Spring',2009,'B+');

INSERT INTO takes VALUES(55739,'MU-199',1,'Spring',2010,'A-');

INSERT INTO takes VALUES(76543,'CS-101',1,'Fall',2009,'A');

INSERT INTO takes VALUES(76543,'CS-319',2,'Spring',2010,'A');

INSERT INTO takes VALUES(76653,'EE-181',1,'Spring',2009,'C');

INSERT INTO takes VALUES(98765,'CS-101',1,'Fall',2009,'C-');

INSERT INTO takes VALUES(98765,'CS-315',1,'Spring',2010,'B');

INSERT INTO takes VALUES(98988,'BIO-101',1,'Summer',2009,'A');

INSERT INTO takes VALUES(98988,'BIO-301',1,'Summer',2010,null);

INSERT INTO teaches VALUES(10101,'CS-101',1,'Fall',2009);

INSERT INTO teaches VALUES(10101,'CS-315',1,'Spring',2010);

INSERT INTO teaches VALUES(10101,'CS-347',1,'Fall',2009);

INSERT INTO teaches VALUES(12121,'FIN-201',1,'Spring',2010);

INSERT INTO teaches VALUES(15151,'MU-199',1,'Spring',2010);

INSERT INTO teaches VALUES(22222,'PHY-101',1,'Fall',2009);

INSERT INTO teaches VALUES(32343,'HIS-351',1,'Spring',2010);

INSERT INTO teaches VALUES(45565,'CS-101',1,'Spring',2010);

INSERT INTO teaches VALUES(45565,'CS-319',1,'Spring',2010);

INSERT INTO teaches VALUES(76766,'BIO-101',1,'Summer',2009);

INSERT INTO teaches VALUES(76766,'BIO-301',1,'Summer',2010);

INSERT INTO teaches VALUES(83821,'CS-190',1,'Spring',2009);

INSERT INTO teaches VALUES(83821,'CS-190',2,'Spring',2009);

INSERT INTO teaches VALUES(83821,'CS-319',2,'Spring',2010);

INSERT INTO teaches VALUES(98345,'EE-181',1,'Spring',2009);

INSERT INTO student VALUES(00128,'Zhang','Comp.Sci.',102);

INSERT INTO student VALUES(12345,'Shankar','Comp.Sci.',32);

INSERT INTO student VALUES(19991,'Brandt','History',80);

INSERT INTO student VALUES(23121,'Chavez','Finance',110);

INSERT INTO student VALUES(44553,'Peltier','Physics',56);

INSERT INTO student VALUES(45678,'Levy','Physics',46);

INSERT INTO student VALUES(54321,'Williams','Comp.Sci.',54);

INSERT INTO student VALUES(55739,'Sanchez','Music',38);

INSERT INTO student VALUES(70557,'Snow','Physics',0);

INSERT INTO student VALUES(76543,'Brown','Comp.Sci.',58);

INSERT INTO student VALUES(76653,'Aoi','Elec.Eng.',60);

INSERT INTO student VALUES(98765,'Bourikas','Elec.Eng.',98);

INSERT INTO student VALUES(98988,'Tanaka','Biology',120);

ALTER TABLE classroom ADD CONSTRAINT p1 PRIMARY KEY(building,room\_number);

ALTER TABLE department ADD CONSTRAINT p2 PRIMARY KEY(dept\_name);

ALTER TABLE course ADD CONSTRAINT p3 PRIMARY KEY(course\_id);

ALTER TABLE instructor ADD CONSTRAINT p4 PRIMARY KEY(ID);

ALTER TABLE section ADD CONSTRAINT p5 PRIMARY KEY(course\_id,sec\_id,semester,year);

ALTER TABLE teaches ADD CONSTRAINT p6 PRIMARY KEY(ID,course\_id,sec\_id,semester,year);

ALTER TABLE student ADD CONSTRAINT p7 PRIMARY KEY(ID);

ALTER TABLE takes ADD CONSTRAINT p8 PRIMARY KEY(ID,course\_id,sec\_id,semester,year);

ALTER TABLE advisor ADD CONSTRAINT p9 PRIMARY KEY(s\_ID,i\_ID);

ALTER TABLE time\_slot ADD CONSTRAINT p10 PRIMARY KEY(time\_slot\_id,day,start\_time);

ALTER TABLE prereq ADD CONSTRAINT p11 PRIMARY KEY(course\_id,prereq\_id);

update department set dept\_name = 'Comp. Sci.' where dept\_name = 'Comp. Sci';

update student set dept\_name = 'Comp. Sci.' where dept\_name = 'Comp.Sci.';

update student set dept\_name = 'Elec. Eng.' where dept\_name = 'Elec.Eng.';

update advisor set s\_id = 44553 where s\_id = 45553;

UPDATE prereq set COURSE\_ID = 'CS-190' WHERE COURSE\_ID = 'CS-109';

ALTER TABLE course ADD CONSTRAINT F1 FOREIGN KEY (dept\_name) REFERENCES department(dept\_name);

ALTER TABLE instructor ADD CONSTRAINT F2 FOREIGN KEY (dept\_name) REFERENCES department(dept\_name);

ALTER TABLE section ADD CONSTRAINT F3 FOREIGN KEY (course\_id) REFERENCES course(course\_id);

ALTER TABLE section ADD CONSTRAINT F4 FOREIGN KEY (building,room\_number) REFERENCES classroom(building, room\_number);

ALTER TABLE teaches ADD CONSTRAINT F5 FOREIGN KEY (course\_id,sec\_id,semester,year) REFERENCES section(course\_id,sec\_id,semester,year) ;

ALTER TABLE student ADD CONSTRAINT F6 FOREIGN KEY (dept\_name) REFERENCES department(dept\_name);

ALTER TABLE takes ADD CONSTRAINT F7 FOREIGN KEY (course\_id,sec\_id,semester,year) REFERENCES section(course\_id,sec\_id,semester,year);

ALTER TABLE advisor ADD CONSTRAINT F8 FOREIGN KEY(s\_id) REFERENCES student(ID);

ALTER TABLE advisor ADD CONSTRAINT F9 FOREIGN KEY(i\_id) REFERENCES instructor(ID);

ALTER TABLE prereq ADD CONSTRAINT F10 FOREIGN KEY(course\_id) REFERENCES course(course\_id);