Create Tables

create table classroom

(building varchar(15),

room\_number varchar(7) primary key,

capacity numeric(4,0),

);

create table department

(dept\_name varchar(20),

building varchar(15),

budget         numeric(12,2) check (budget > 0),

primary key (dept\_name)

);

create table course

(course\_id varchar(8),

title varchar(50),

dept\_name varchar(20),

credits numeric(2,0) check (credits > 0),

primary key (course\_id),

foreign key (dept\_name) references department (dept\_name)

on delete set null

);

create table instructor

(ID varchar(5),

name varchar(20) not null,

dept\_name varchar(20),

salary numeric(8,2) check (salary > 29000),

primary key (ID),

foreign key (dept\_name) references department (dept\_name)

on delete set null

);

create table time\_slot

(id int primary key,

time\_slot\_id varchar(4),

day varchar(1),

start\_hr numeric(2) check (start\_hr >= 0 and start\_hr < 24),

start\_min numeric(2) check (start\_min >= 0 and start\_min < 60),

end\_hr numeric(2) check (end\_hr >= 0 and end\_hr < 24),

end\_min numeric(2) check (end\_min >= 0 and end\_min < 60)

);

create table section

(course\_id varchar(8),

         sec\_id varchar(8),

semester varchar(6)

check (semester in ('Fall', 'Winter', 'Spring', 'Summer')),

year numeric(4,0) check (year > 1701 and year < 2100),

building varchar(15),

room\_number varchar(7),

time\_slot\_id varchar(4),

id int,

primary key (course\_id, sec\_id, semester, year),

foreign key (course\_id) references course (course\_id)

on delete cascade,

foreign key (room\_number) references classroom (room\_number)

on delete set null,

foreign key (id) references time\_slot (id)

on delete set null,

);

create table teaches

(ID varchar(5),

course\_id varchar(8),

sec\_id varchar(8),

semester varchar(6),

year numeric(4,0),

primary key (ID, course\_id, sec\_id, semester, year),

foreign key (course\_id, sec\_id, semester, year) references section (course\_id, sec\_id, semester, year)

on delete cascade,

foreign key (ID) references instructor (ID)

on delete cascade

);

create table student

(ID varchar(5),

name varchar(20) not null,

dept\_name varchar(20),

tot\_cred numeric(3,0) check (tot\_cred >= 0),

primary key (ID),

foreign key (dept\_name) references department (dept\_name)

on delete set null

);

create table takes

(ID varchar(5),

course\_id varchar(8),

sec\_id varchar(8),

semester varchar(6),

year numeric(4,0),

grade         varchar(2),

primary key (ID, course\_id, sec\_id, semester, year),

foreign key (course\_id, sec\_id, semester, year) references section (course\_id, sec\_id, semester, year)

on delete cascade,

foreign key (ID) references student (ID)

on delete cascade

);

create table advisor

(s\_ID varchar(5),

i\_ID varchar(5),

primary key (s\_ID),

foreign key (i\_ID) references instructor (ID)

on delete set null,

foreign key (s\_ID) references student (ID)

on delete cascade

);

create table prereq

(course\_id varchar(8),

prereq\_id varchar(8),

primary key (course\_id, prereq\_id),

foreign key (course\_id) references course (course\_id)

on delete cascade,

foreign key (prereq\_id) references course (course\_id)

);

Inserting Values

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 classroom values ('Taylor', '112', '30');

insert into classroom values ('Painter', '234', '50');

insert into classroom values ('Packard', '303', '56');

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', 'Physical 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 time\_slot values (1,'A', 'M', '8', '0', '8', '50');

insert into time\_slot values (2,'A', 'W', '8', '0', '8', '50');

insert into time\_slot values (3,'A', 'F', '8', '0', '8', '50');

insert into time\_slot values (4,'B', 'M', '9', '0', '9', '50');

insert into time\_slot values (5,'B', 'W', '9', '0', '9', '50');

insert into time\_slot values (6,'B', 'F', '9', '0', '9', '50');

insert into time\_slot values (7,'C', 'M', '11', '0', '11', '50');

insert into time\_slot values (8,'C', 'W', '11', '0', '11', '50');

insert into time\_slot values (9,'C', 'F', '11', '0', '11', '50');

insert into time\_slot values (10,'D', 'M', '13', '0', '13', '50');

insert into time\_slot values (11,'D', 'W', '13', '0', '13', '50');

insert into time\_slot values (12,'D', 'F', '13', '0', '13', '50');

insert into time\_slot values (13,'E', 'T', '10', '30', '11', '45 ');

insert into time\_slot values (14,'E', 'R', '10', '30', '11', '45 ');

insert into time\_slot values (15,'F', 'T', '14', '30', '15', '45 ');

insert into time\_slot values (16,'F', 'R', '14', '30', '15', '45 ');

insert into time\_slot values (17,'G', 'M', '16', '0', '16', '50');

insert into time\_slot values (18,'G', 'W', '16', '0', '16', '50');

insert into time\_slot values (19,'G', 'F', '16', '0', '16', '50');

insert into time\_slot values (20,'H', 'W', '10', '0', '12', '30');

insert into section values ('BIO-101', '1', 'Summer', '2017', 'Painter', '514', 'B',1);

insert into section values ('BIO-301', '1', 'Summer', '2018', 'Painter', '514', 'A',2);

insert into section values ('CS-101', '1', 'Fall', '2017', 'Packard', '101', 'H',3);

insert into section values ('CS-101', '1', 'Spring', '2018', 'Packard', '101', 'F',4);

insert into section values ('CS-190', '1', 'Spring', '2017', 'Taylor', '3128', 'E',5);

insert into section values ('CS-190', '2', 'Spring', '2017', 'Taylor', '3128', 'A',6);

insert into section values ('CS-315', '1', 'Spring', '2018', 'Watson', '120', 'D',7);

insert into section values ('CS-319', '1', 'Spring', '2018', 'Watson', '100', 'B',8);

insert into section values ('CS-319', '2', 'Spring', '2018', 'Taylor', '3128', 'C',9);

insert into section values ('CS-347', '1', 'Fall', '2017', 'Taylor', '3128', 'A',10);

insert into section values ('EE-181', '1', 'Spring', '2017', 'Taylor', '3128', 'C',11);

insert into section values ('FIN-201', '1', 'Spring', '2018', 'Packard', '101', 'B',12);

insert into section values ('HIS-351', '1', 'Spring', '2018', 'Painter', '514', 'C',13);

insert into section values ('MU-199', '1', 'Spring', '2018', 'Packard', '101', 'D',14);

insert into section values ('PHY-101', '1', 'Fall', '2017', 'Watson', '100', 'A',15);

insert into teaches values ('10101', 'CS-101', '1', 'Fall', '2017');

insert into teaches values ('10101', 'CS-315', '1', 'Spring', '2018');

insert into teaches values ('10101', 'CS-347', '1', 'Fall', '2017');

insert into teaches values ('12121', 'FIN-201', '1', 'Spring', '2018');

insert into teaches values ('15151', 'MU-199', '1', 'Spring', '2018');

insert into teaches values ('22222', 'PHY-101', '1', 'Fall', '2017');

insert into teaches values ('32343', 'HIS-351', '1', 'Spring', '2018');

insert into teaches values ('45565', 'CS-101', '1', 'Spring', '2018');

insert into teaches values ('45565', 'CS-319', '1', 'Spring', '2018');

insert into teaches values ('76766', 'BIO-101', '1', 'Summer', '2017');

insert into teaches values ('76766', 'BIO-301', '1', 'Summer', '2018');

insert into teaches values ('83821', 'CS-190', '1', 'Spring', '2017');

insert into teaches values ('83821', 'CS-190', '2', 'Spring', '2017');

insert into teaches values ('83821', 'CS-319', '2', 'Spring', '2018');

insert into teaches values ('98345', 'EE-181', '1', 'Spring', '2017');

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');

insert into takes values ('00128', 'CS-101', '1', 'Fall', '2017', 'A');

insert into takes values ('00128', 'CS-347', '1', 'Fall', '2017', 'A-');

insert into takes values ('12345', 'CS-101', '1', 'Fall', '2017', 'C');

insert into takes values ('12345', 'CS-190', '2', 'Spring', '2017', 'A');

insert into takes values ('12345', 'CS-315', '1', 'Spring', '2018', 'A');

insert into takes values ('12345', 'CS-347', '1', 'Fall', '2017', 'A');

insert into takes values ('19991', 'HIS-351', '1', 'Spring', '2018', 'B');

insert into takes values ('23121', 'FIN-201', '1', 'Spring', '2018', 'C+');

insert into takes values ('44553', 'PHY-101', '1', 'Fall', '2017', 'B-');

insert into takes values ('45678', 'CS-101', '1', 'Fall', '2017', 'F');

insert into takes values ('45678', 'CS-101', '1', 'Spring', '2018', 'B+');

insert into takes values ('45678', 'CS-319', '1', 'Spring', '2018', 'B');

insert into takes values ('54321', 'CS-101', '1', 'Fall', '2017', 'A-');

insert into takes values ('54321', 'CS-190', '2', 'Spring', '2017', 'B+');

insert into takes values ('55739', 'MU-199', '1', 'Spring', '2018', 'A-');

insert into takes values ('76543', 'CS-101', '1', 'Fall', '2017', 'A');

insert into takes values ('76543', 'CS-319', '2', 'Spring', '2018', 'A');

insert into takes values ('76653', 'EE-181', '1', 'Spring', '2017', 'C');

insert into takes values ('98765', 'CS-101', '1', 'Fall', '2017', 'C-');

insert into takes values ('98765', 'CS-315', '1', 'Spring', '2018', 'B');

insert into takes values ('98988', 'BIO-101', '1', 'Summer', '2017', 'A');

insert into takes values ('98988', 'BIO-301', '1', 'Summer', '2018', null);

insert into advisor values ('00128', '45565');

insert into advisor values ('12345', '10101');

insert into advisor values ('23121', '76543');

insert into advisor values ('44553', '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-190', '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');