**Task 1:**

**ALL ATTRIBUTES ARE ASSUMED TO BE “NOT NULL”**

* create database universitydb;
* use universitydb;
* create table department (  
  dept\_name varchar(20),  
  building varchar(15),  
  budget numeric(10,2),  
  Primary key (dept\_name));
* create table course (

course\_id varchar(8),

title varchar(50),

dept\_name varchar(20),

credits numeric(2,0),

primary key (course\_id),

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

* create table instructor (  
  instructor\_id varchar(10),  
  instructor\_name varchar(30),  
  dept\_name varchar(20),  
  salary numeric(10,2),  
  primary key (instructor\_id),   
  foreign key(dept\_name) references department (dept\_name));
* create table section (  
  course\_id varchar(8),  
  section\_id varchar(8),  
  semester varchar(10),  
  section\_year int,  
  building varchar(50),  
  room\_number varchar(10),  
  primary key (course\_id, section\_id, semester, section\_year),  
  foreign key (course\_id) references course (course\_id));
* create table teaches (

instructor\_id varchar(10),

course\_id varchar(8),

section\_id varchar(8),

semester varchar(10),

section\_year int,

primary key (instructor\_id, course\_id, section\_id, semester, section\_year),

foreign key (instructor\_id) references instructor (instructor\_id),

foreign key (course\_id, section\_id, semester, section\_year) references section(course\_id, section\_id, semester, section\_year));

* create table student (  
  student\_id varchar(10),  
  student\_name varchar(30),  
  dept\_name varchar(20),  
  total\_credits numeric(5,2),  
  primary key (student\_id),  
  foreign key(dept\_name) references department(dept\_name));

**Insertion:**

* Department
  + INSERT INTO department (dept\_name, building, budget)  
    VALUES (‘CMPSC’, ‘Sutherland’, ‘52000.00’), (‘ART’, ‘Woodland’, ‘568000.00’), (‘Law’, ‘Cloverly’, ‘37500.00’);
  + Graphical user interface, text, application

    Description automatically generated
* Course
  + INSERT INTO course (course\_id, title, dept\_name, credits)  
    VALUES (‘CMPSC462’, ‘Data Structures’, ‘CMPSC’, ‘3’), (‘CMPSC463’, ‘Algorithms’, ‘CMPSC’, ‘3’), (‘CMPSC430’, ‘Database Design’, ‘CMPSC’, ‘3’);
  + Graphical user interface, application

    Description automatically generated
* Instructor
  + INSERT INTO instructor (instructor\_id, instructor\_name, dept\_name, salary)  
    VALUES (‘vue9’, ‘Vinayak Elangovan’, ‘CMPSC’, ‘70000.00’), (‘msh5850’, ‘MD Hossain’, ‘CMPSC’, ‘90000.00’), (‘aet5496’, ‘Alejandro Trofimoff’, ‘CMPSC’, ‘50000.00’);
  + Graphical user interface, text, application

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* Section
  + INSERT INTO section (course\_id, section\_id, semester, section\_year, building, room\_number)  
    VALUES (‘CMPSC462’, ‘001’, ‘Fall’, ‘2022’, ‘Woodland’, '345’), (‘CMPSC463’, ‘001’, ‘Fall’, ‘2022’, ‘ZOOM’, ‘N/A’), (‘CMPSC430’, ‘001’, ‘Fall’, ‘2022’, ‘ZOOM’, ‘N/A’);
  + Graphical user interface, application

    Description automatically generated
* Teaches
  + INSERT INTO teaches (instructor\_id, course\_id, section\_id, semester, section\_year)  
    VALUES (‘vue9’, ‘CMPSC462’, ‘001’, ‘Fall’, ‘2022’), (‘msh5850’, ‘CMPSC463’, ‘001’, ‘Fall’, ‘2022’), (‘msh5850’, ‘CMPSC430’, ‘001’, ‘Fall’, ‘2022’);
  + Graphical user interface, application

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* Student
  + INSERT INTO student (student\_id, student\_name, dept\_name, total\_credits)  
    VALUES (‘gkn5075’, ‘Gabriel Nulman’, ‘CMPSC’, ’95.50’), (‘pns5075’, ‘Parth Shah’, ‘CMPSC’, ’90.00’), (‘jag6611’, ‘Jacob Gampa’, ‘CMPSC’, ‘100.00’);
  + Graphical user interface, text, application

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**Task 2:**

1. UPDATE department  
   SET budget = (0.05 \* budget) + budget  
   WHERE dept\_name = “Law”;  
   Graphical user interface, text, application

   Description automatically generated
2. SELECT budget FROM department  
   WHERE dept\_name = “cmpsc”;  
   Graphical user interface

   Description automatically generated
3. SELECT instructor\_name, salary FROM instructor  
   WHERE dept\_name = “cmpsc”;  
   Graphical user interface, text, application

   Description automatically generated
4. SELECT student\_name, total\_credits FROM student;  
   Graphical user interface, text

   Description automatically generated