

### a. Sign-Up

```
create sequence student_course_seq
  start with 1
  increment by 1
  nocycle
  nocache
  noorder;
```

```
create table "SIGNUP" (
  "ID" number(10, 0) default student_course_seq.nextval,
  "STUDENT_ID" varchar2(10),
  "COURSE_ID" number(4, 0),
  "YEAR" date,

  constraint "SIGNUP_PK" primary key ("ID"),
  constraint "SIGNUP_FK_STUDENT" foreign key ("STUDENT_ID") references "STUDENT" ("ID") on
delete cascade,
  constraint "SIGNUP_FK_COURSE" foreign key ("COURSE_ID") references "COURSE" ("ID") on delete
cascade,

  constraint "DUPLICATE_SIGNUP" unique ("STUDENT_ID", "COURSE_ID", "YEAR")
)
```

### b. Grade

```
create table "GRADE" (
  "STUDENT_ID" varchar2(10),
  "COURSE_ID" number(4, 0),
  "DATE" date,
  "ELP" char(1),
  "VALUE" number(3,1),

  constraint "GRADE_FK_STUDENT" foreign key ("STUDENT_ID") references "STUDENT" ("ID") on delete
cascade,
  constraint "GRADE_FK_COURSE" foreign key ("COURSE_ID") references "COURSE" ("ID") on delete
cascade,

  constraint "GRADE_CK_ELP" check ("ELP" in ('E', 'L', 'P')),
  constraint "GRADE_CK_VALUE" check ("VALUE" between 1 and 10)
)
```

### c. Insert into Department

```
insert into "DEPARTMENT"
values (1, 'Computers', 'AC')

insert into "DEPARTMENT"
values (2, 'Electronics', 'ETcTi')
```

#### d. Insert into Teacher

```
insert into "TEACHER"
values ('P1.100.111', 'Ion', 'Stanescu', 4200.57, 2)

insert into "TEACHER"
values ('P1.105.254', 'Joe', 'Mayor', 3895.11, 1)
```

#### e. Insert into Student

```
insert into "STUDENT"
values ('LM6-10.425', 'Ioan', 'Popescu', 3, 1)

insert into "STUDENT"
values ('LM2-12.891', 'Andrei', 'Floraru', 2, 1)

insert into "STUDENT"
values ('LM8-16.112', 'Ioan', 'Popescu', 1, 2)

insert into "STUDENT"
values ('LM8-18.112', 'Razvan', 'Bratu', 4, 2)
```

#### f. Insert into Course

```
insert into "COURSE"
values (1, 'Electric Engines', 'P1.100.111', 5)

insert into "COURSE"
values (2, 'Programming', 'P1.105.254', 4)

insert into "COURSE"
values (3, 'OOP', 'P1.105.254', 4)
```

#### g. Insert into Sign-Up

```
insert into "SIGNUP" ("STUDENT_ID", "COURSE_ID", "YEAR")
values ('LM8-16.112', 2, TO_DATE('2019', 'yyyy'))

insert into "SIGNUP" ("STUDENT_ID", "COURSE_ID", "YEAR")
values ('LM6-10.425', 1, TO_DATE('2021', 'yyyy'))

insert into "SIGNUP" ("STUDENT_ID", "COURSE_ID", "YEAR")
values ('LM2-12.891', 3, TO_DATE('2020', 'yyyy'))

insert into "SIGNUP" ("STUDENT_ID", "COURSE_ID", "YEAR")
values ('LM8-18.112', 1, TO_DATE('2019', 'yyyy'))
```

#### h. Insert into Grade

```
insert into "GRADE"
values ('LM8-16.112', 2, CURRENT_DATE, 'E', 9)

insert into "GRADE"
values ('LM8-16.112', 2, CURRENT_DATE, 'L', 7)

insert into "GRADE"
values ('LM8-16.112', 2, CURRENT_DATE, 'L', 10)
```

- We can also get STUDENT.ID and/or COURSE.ID using joins:

```
select STUDENT.ID, COURSE.ID from STUDENT
inner join DEPARTMENT
on STUDENT.DEPARTMENT = DEPARTMENT.ID
inner join TEACHER
on TEACHER.DEPARTMENT = DEPARTMENT.ID
inner join COURSE
on COURSE.TEACHER_ID = TEACHER.ID
where STUDENT.NAME = 'Ioan'
and STUDENT.SURNAME = 'Popescu'
and COURSE.NAME = 'Programming'
```

and use this to insert into SIGNUP or GRADE

#### i. Delete from Student

```
delete from "STUDENT"
where "NAME" = 'Razvan'
and "SURNAME" = 'Bratu'
and "DEPARTMENT" = 2;
```

#### j. Update Grades

```
update "GRADE"
set "VALUE" = "VALUE" + 1
where "VALUE" < 10
and "ELP" = 'L'
```