#1: procedure ADD_STUDENT


```sql
1    #1: procedure ADD_STUDENT
2    describe sinhvien;
3    select * from sinhvien;
4
5    delimiter $
6
7    create procedure ADD_STUDENT(    mssv char(8),
8                                     hoten varchar(45),
9                                     gioiTinh char(1),
10                                    ngaySinh date,
11                                    noiSinh varchar(40),
12                                    diaChi varchar(100),
13                                    maKhoa char(8))
14   begin
15       insert into sinhvien values (mssv, hoten, gioiTinh, ngaySinh, noiSinh, diaChi, maKhoa);
16   end$
17
18   call ADD_STUDENT('A2111992', 'Ngô Thanh Nam', 'M', '2003-12-30', 'Cần Thơ', 'Kiên Giang', 'cntt&tt')$
19
20   #2: procedure DEL_STUDENT
21   delimiter $
22
23   select * from sinhvien$
24   select * from ketqua$
25
```

#2: procedure DEL_STUDENT


```sql
20   #2: procedure DEL_STUDENT
21   delimiter $
22
23   select * from sinhvien$
24   select * from ketqua$
25
26   create procedure DEL_STUDENT(mssv char(8))
27   begin
28       if exists(select mssv from sinhvien where sinhvien.mssv = mssv)
29       then
30           delete from ketqua where ketqua.mssv = mssv;
31           delete from sinhvien where sinhvien.mssv = mssv;
32       end if;
33   end$
34
35   call DEL_STUDENT('B2111992')$
36
37   #3: procedure AVG_GRADE
38
39   delimiter $
40
41   create procedure AVG_GRADE(IN mssv char(8), OUT diemtb double)
42   begin
43       if exists(select mssv from sinhvien where sinhvien.mssv = mssv)
44       then
```

#3: procedure AVG_GRADE


```
37    #3: procedure AVG_GRADE
38    delimiter $
39
40 •  create procedure AVG_GRADE(IN mssv char(8), OUT diemtb double)
41    begin
42        if exists(select mssv from sinhvien where sinhvien.mssv = mssv)
43        then
44            set diemtb = (select sum(diem*soTinChi)/sum(soTinChi)
45                    from ketqua k inner join hocphan h on k.maHP = h.maHP
46                    where k.mssv = mssv);
47        else
48            set diemtb = -1;
49        end if;
50    end$
51
52 •  set @diemtb = 0$
53
54 •  call AVG_GRADE('B1456789', @diemtb)$
55
56 •  select @diemtb$
```

#4: function AVG_GRADE


```
58    #4: function AVG_GRADE
59
60    delimiter $
61
62 •  create function AVG_GRADE(mssv char(8))
63    returns double
64    begin
65        if exists(select mssv from sinhvien where sinhvien.mssv = mssv)
66        then
67            return (select sum(diem*soTinChi)/sum(soTinChi)
68                    from ketqua k inner join hocphan h on k.maHP = h.maHP
69                    where k.mssv = mssv);
70        else
71            return -1;
72        end if;
73    end$
74
75 •  select AVG_GRADE('B1234568')$
76
77    #5: procedure AVG_GRADE_DEPT
```

#5: procedure AVG_GRADE_DEPT


```
77   #5: procedure AVG_GRADE_DEPT
78
79   delimiter $
80
81 • desc khoa$
82
83 • create procedure AVG_GRADE_DEPT(maKhoa char(8))
84 ⊟begin
85       select s.mssv, hoten, AVG_GRADE(kq.mssv)
86       from sinhvien s inner join khoa k on s.maKhoa = k.maKhoa
87           inner join ketqua kq on kq.mssv = s.mssv
88       where s.maKhoa = maKhoa
89       group by s.mssv;
90   └end$
91
92 • call AVG_GRADE_DEPT('cntt&tt')$
93
```

mssv	hoten	AVG_GRADE(kq.m
B1234567	Nguyen Thanh Hai	2.714285714285...
B1234568	Tran Thanh Mai	8.571428571428...
B1234569	Tran Thu THuy	8.428571428571...
B1345679	Tran Hoang Yen	3.285714285714...
B1345978	Tran Hong Truc	6