5.10

a.
```
SELECT T.CrsCode, T.Semester
FROM Teaching T, Professor P
WHERE T.ProfId=P.Id
AND (P.DeptId = 'MGT' OR P.DeptId = 'EE')
```

b.
```
SELECT S.Name
FROM Student S
WHERE S.Id in (SELECT T.StudId from TRANSCRIPT T
                    WHERE T.Semester ='S1997'
                    INTERSECT
                    SELECT T.StudId from TRANSCRIPT T
                    WHERE T.Semester ='F1998')
```

c.
```
CREATE VIEW StudDept(StudId, DeptId) AS
SELECT R.StudId, P.DeptId
FROM Transcript R, Teaching T, Professor P
WHERE R.CrsCode = T.Crscode AND R.Semester = T.Semester AND T.ProfId = P.Id

SELECT S.Name
FROM Student S, StudDept SD1, StudDept SD2
WHERE S.Id = SD1.StudId AND SD1.StudId = SD2.StudId
AND SD1.DeptId <> SD2.DeptId
```

d.
```
SELECT C.CrsCode
FROM Course C
WHERE C.DeptId = 'MGT' AND
NOT EXISTS (
(SELECT S.StudId FROM Student S)
EXCEPT
(SELECT T.StudId FROM Transcript T WHERE C.CrsCode = T.CrsCode))
```

e.
```
SELECT P.DeptId
FROM Professor P
WHERE
EXISTS (
        (SELECT P2.Id FROM Professor P2
        WHERE NOT EXISTS (
                (SELECT C.CrsCode FROM Course C WHERE C.DeptId = P2.DeptId )
                EXCEPT
                (SELECT T.CrsCode FROM Teaching T WHERE T.ProfId = P2.Id ) )
        AND P.Id = P2.Id
```

5.17

a.
```
SELECT AVG(S.Age)
FROM Student S WHERE S.Id IN
        (SELECT DISTINCT S.Id FROM Student S, Transcript T WHERE S.Id
        =T.StudId AND T.Grade = 'A' )
```

b.
```
SELECT T.CrsCode, MIN(S.Age)
FROM Student S, Transcript T
WHERE S.Id = T.StudId AND
NOT EXISTS (SELECT T.Grade
FROM Transcript T WHERE S.Id = T.StudId AND T.Grade != A )
GROUP BY T.CrsCode
```

c. add to answer in b)

```
HAVING S.CrsCode IN ('CS305','MAT123')
```

d.
```
UPDATE Professor
SET Salary = Salary * 1.1
WHERE Id IN
(SELECT P.Id
FROM Professor P, Teaching T
WHERE P.Id = T.ProfId
AND P.Age < 40 AND T.CrsCode = 'MAT123' AND (T.Semester = 'S1997'
OR T.Semester = 'F1997'))
```

e.
```
CREATE VIEW AvgSal(Avgsal) AS
SELECT AVG(P.Salary)
FROM Professor P

SELECT P.Id
FROM Professor P, AvgSal A
WHERE P.Salary > 1.1 * A.Avgsal
```

f.
```
CREATE VIEW DeptAvgSal(DeptId, Avgsal) AS
SELECT P.DeptId, AVG(P.Salary)
FROM Professor P
GROUP BY P.DeptId

SELECT P.Id
FROM Professor P, DeptAvgSal D
WHERE P.DeptId = D.DeptId AND P.Salary > 1.1 * D.Avgsal
```