



بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

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تمرین سری 3 (تئوری)

سوال 1)

```
SELECT ID FROM ostaddaneshgah AS a where a.age>55
```

سوال 2)

الف)

برای کلید اصلی از id استفاده می کنیم.

```
CREATE TABLE classinfo  
(  
ID INT,  
Classname nvarchar(50) not null,  
Teachername nvarchar(50) null,  
Classtime time null,  
Classday nvarchar(100) null,  
Firstclassdate date null,  
Finalexam date not null,  
PRIMARY KEY(ID)  
)
```

ب)

```
CREATE TABLE professor  
(  
Fname nvarchar(50) null,
```

```
Lname nvarchar(50) null,  
Sid number(10) null,  
Pid INT not null auto_increment,  
Phonenumber number(10) null,  
Age INT null,  
Salary int null,  
Work_experience float(3)  
PRIMARY_KEY(Pid)  
)
```

ج)

```
CREATE TABLE student  
(  
fname nvarchar(50) null,  
lname nvarchar(50) null,  
fathername nvarchar(50) null,  
sid number(10) null,  
student_number number(8) not null,  
phone_number number(10) null,  
age int null,  
year_period int null,  
number_passed_unit int null,
```

prvious\_grade\_average float(4) not null,  
total\_grade\_average float(4) not null,  
PRIMARY\_KEY(STUDENT\_NUMBER )  
)

سوال 3)

الف)

SELECT Iname,price From Item ;

ب)

SELECT orderNo,date From Order where tax>10 ;

پ)

SELECT b.orderNo,a.\* From Contains a

INNER JOIN Order b on a.orderNo=b.orderNo

INNER JOIN Item c on c.INo=a.INo ;

ت)

SELECT a.custId , b.number From Customer a INNER JOIN Phone b  
on a.phoneId=b.phoneId

Where a.custid IN

(

SELECT a.custId FROM customer a inner join address d

On a.addId=d.addId where d.city="Tehran");

ث)

```

SELECT * From Customer Where custId IN(SELECT a.custId From
Customer a
INNER JOIN Buys b ON a.custId=b.custId
INNER JOIN Order c ON b.orderNo=c.orderNo
INNER JOIN Contains d ON c.orderNo=d.orderNo INNER JOIN Item e
ON e.INo=d.INo
GROUP BY a.custId
HAVING COUNT(DISTINCT e.INo)=(SELECT COUNT(*) FROM Item));

```

ج)

```

SELECT SNo FROM Supplier WHERE SNo NOT IN
( SELECT DISTINCT SNo FROM Supplies);

```

ج)

```

SELECT c.* From Address a
INNER JOIN Order b on a.address=b.addId
INNER JOIN Customer c on c.addId=b.addId
Where Contains(a.city, ‘ “Yazd” and “Tehran” ’) and NOT (a.city
LIKE '%Isfahan%');

```

ج)

```

SELECT i.INo FROM ( SELECT custId,city FROM Customer a INNER
JOIN Address b ON a.addId = b.addId ) AS c
INNER JOIN Buys d ON c.custId = d.custId

```

```

INNER JOIN ( SELECT orderNo, city FROM Order AS e INNER JOIN
Address f ON e.addId = f.addId ) AS g ON d.orderNo = g.orderNo
INNER JOIN Contains h ON g.orderNo = h.orderNo
INNER JOIN Item AS i ON h.INo = i.INo
INNER JOIN Supplies J ON i.INo = J.INo
INNER JOIN ( SELECT SNo, city FROM Supplier
AS j1 JOIN Address k ON j1.addId = k.addId ) AS k1 ON
J.SNo = k1.SNo WHERE c.city = g.city AND s.city = g.city AND c.city =
k1.city;

```

خ)

```

SELECT a.* FROM Customer a JOIN Buys b ON b.custId=a.custid
INNER JOIN Order c ON b.orderNo=c.orderNo
INNER JOIN Contains d ON c.orderNo=d.orderNo
INNER JOIN Item e ON e.INo=d.INo
GROUP BY a.custId, e.INo
HAVING COUNT(DISTINCT e.INo)=COUNT(e.INo);

```

سوال 4)

الف)

```

SELECT a.name, COUNT( b.friend_id )
FROM students a JOIN friends b ON
b.student_id = a.student_id

```

```
GROUP BY a.student_id  
ORDER BY COUNT( b.friend_id ) DESC;
```

ب)

```
SELECT a.* FROM students a INNER JOIN db_grades b  
WHERE b.grade < 14 AND EXIST (  
SELECT * FROM friends c  
INNER JOIN db_grades d ON c.friend_id = d.student_id  
WHERE c.student_id = a.student_id AND  
d.grade >= 14);
```

پ)

```
SELECT * FROM students WHERE student_id IN (  
SELECT a.student_id FROM friends a JOIN db_grades b ON  
a.friend_id = b.student_id  
GROUP BY a.student_id  
HAVING COUNT( a.friend_id ) = (  
SELECT COUNT(*)  
FROM friends c INNER JOIN db_grades AS d ON c.friend_id =  
d.student_id  
WHERE c.student_id = a.student_id AND d.grade < 14 ));
```

ت)

```
SELECT a.* FROM students a
INNER JOIN db_grade b ON a.student_id = b.student_id
WHERE EXISTS ( SELECT * FROM friends c
INNER JOIN db_grades d ON c.friend_id = d.student_id
WHERE a.student_id = c.student_id AND b.grade > d.grade )
AND EXISTS (SELECT * FROM friends e
INNER JOIN db_grades f ON e.friend_id = f.student_id
WHERE a.student_id = f.student_id AND b.grade < f.grade );
```

ث)

```
SELECT VAR(grade) FROM db_grade
WHERE grade < 14;
```