Consider the following two tables and four queries in SQL.

Book (isbn, bname), Stock (isbn, copies)

Query 1:
```
SELECT B.isbn, S.copies
FROM Book B INNER JOIN Stock S
ON B.isbn = S.isbn;
```

Query 2:
```
SELECT B.isbn, S.copies
FROM Book B LEFT OUTER JOIN Stock S
ON B.isbn = S.isbn;
```

Query 3:
```
SELECT B.isbn, S.copies
 FROM Book B RIGHT OUTER JOIN Stock S
 ON B.isbn = S.isbn;
```

Query 4:
```
SELECT B.isbn, S.copies
FROM Book B FULL OUTER JOIN Stock S
ON B.isbn = S.isbn;
```

Which one of the queries above is certain to have an output that is a superset of the outputs of the other three queries?

A Query 1

B Query 2

C Query 3

D Query 4

Consider the following database table named top_scorer.

top _scorer.

Player	Country	Goals
Klose	Germany	16
Ronald	Brazil	15
G Muller	Germany	14
Fontaine	France	13
Pele	Brazil	12
Klinsmann	Germany	11
Kocsis	Hungary	11
Batistuta	Argentina	10
Cubillas	Peru	10
Lato	Poland	10
Lineker	England	10
T Miller	Germany	10
Rahn	Germany	10

Consider the following SQL query:

```
SELECT ta.player FROM top _scorer AS ta
WHERE ta.goals > ALL (SELECT tb. goals
                      FROM top _ scorer AS tb
                      WHERE tb.country = 'Spain')
AND ta.goals > ANY ( SELECT tc. goals
                     FROM top_ scorer AS tc
                     WHERE tc.country = 'Germany')
```

The number of tuples returned by the above SQL query is _____.

A 5

B 6

C 7

D 8

Consider a database that has the relation schema EMP (EmpId, EmpName, and DeptName). An instance of the schema EMP and a SQL query on it are given below.

EMP		
EmpId	EmpName	DeptName
1	XYA	AA
2	XYB	AA
3	XYC	AA
4	XYD	AA
5	XYE	AB
6	XYF	AB
7	XYG	AB
8	XYH	AC
9	XYI	AC
10	XYJ	AC
11	XYK	AD
12	XYL	AD
13	XYM	AE

```
SELECT AVG(EC.Num)
FROM EC
WHERE (DeptName, Num) IN
      (SELECT DeptName, COUNT(EmpId) AS
                                EC(DeptName, Num)
       FROM EMP
       GROUP BY DeptName)
```

The output of executing the SQL query is ____.

A 1.3

B 6.5

C 2.6

D 5

The relation book (title,price) contains the titles and prices of different books. Assuming that no two books have the same price, what does the following SQL query list?

```
 select title
from book as B
where (select count(*)
    from book as T
    where T.price>B.price) < 5
```

A Titles of the four most expensive books

B Title of the fifth most inexpensive book

C Title of the fifth most expensive book

D Titles of the five most expensive books

Consider the following relations:

Student

Roll_No	Student_Name
1	Raj
2	Rohit
3	Raj

Performance

Roll_No	Course	Marks
1	Math	80
1	English	70
2	Math	75
3	English	80
2	Physics	65
3	Math	80

Consider the following SQL query.

```
SELECT S.Student_Name, sum(P.Marks)
FROM Student S, Performance P
WHERE S.Roll_No = P.Roll_No
GROUP BY S.Student Name
```

The number of rows that will be returned by the SQL query is _____.

A 2

B 3

C 4

D 5

SELECT operation in SQL is equivalent to

A the selection operation in relational algebra

B the selection operation in relational algebra, except that SELECT in SQL retains duplicates

C the projection operation in relational algebra

D the projection operation in relational algebra, except that SELECT in SQL retains duplicates

Consider the following table named Student in a relational database. The primary key of this table is rollNum.

$rollNum$	$name$	$gender$	$marks$
1	$Naman$	M	62
2	$Aliya$	F	70
3	$Aliya$	F	80
4	$James$	M	82
5	$Swati$	F	65

The SQL query below is executed on this database.

```
SELECT *
FROM Student
WHERE gender = 'F' AND
 marks > 65;
```

The number of rows returned by the query is _____

A 0

B 1

C 2

D 3

Consider the relational database with the following four schemas and their respective instances.

`Student(sNo, sName, dNo)` `Dept(dNo, dName)`

`Course(cNo, cName, dNo)` `Register(sNo, cNo)`

Student		
sNo	sName	dNo
S01	James	D01
S02	Rocky	D01
S03	Jackson	D02
S04	Jane	D01
S05	Milli	D02

Dept	
dNo	dName
D01	CSE
D02	EEE

Course		
cNo	cName	dNo
C11	DS	D01
C12	OS	D01
C21	DE	D02
C22	PT	D02
C23	CV	D03

Register	
sNo	cNo
S01	C11
S01	C12
S02	C11
S03	C21
S03	C22
S03	C23
S04	C11
S04	C12
S05	C11
S05	C21

SQL Query:

```
SELECT * FROM Student AS S WHERE NOT EXIST
 (SELECT cNo FROM Course WHERE dNo = "D01"
     EXCEPT
  SELECT cNo FROM Register WHERE sNo = S.sNo)
```

The number of rows returned by the above SQL query is ___

A 1

B 2

C 4

D 8

The relation scheme given below is used to store information about the employees of a company, where empId is the key and deptId indicates the department to which the employee is assigned. Each employee is assigned to exactly one department.

emp(empId, name, gender, salary, deptId)

Consider the following SQL query:

```
 select deptId, count(*)
from emp
where gender = "female" and salary > (select avg(salary)from emp)
group by deptId;
```

The above query gives, for each department in the company, the number of female employees whose salary is greater than the average salary of

A employees in the department

B employees in the company

C female employees in the department

D female employees in the company