CS150A Quiz01

Basic SQL Queries

Assume there exists a table called "Songs" with the following columns.

song_id (Int, Primary Key), artist_name (Text), title (Text), year_released (Int), length_seconds (Int), rating (Float)

An example record could look like the following:(1, 'D.O.D.', 'Crazy Concurrency', 2007, 188, 10.0)

CD **Q1:** Which SQL query (or queries) will get the number of songs released before 2010 with a rating of at least 9.0?

There can be more than one correct answer. At least one answer is correct.

Check all that apply.

Double group by: only both same consider as 1 group.

A. SELECT COUNT(*) FROM Songs GROUP BY year_released, rating HAVING year_released < 2010 AND rating >= 9.0; => count of each (yer_rel, rating) groups.

B. SELECT COUNT(*) FROM Songs WHERE rating >= 9.0 GROUP BY year_released, HAVING year_released < 2010; => count of each year_rel groups

C. SELECT COUNT(*) FROM Songs WHERE year_released < 2010 AND rating >= 9.0;

D. SELECT COUNT(song_id) FROM Songs WHERE year_released < 2010 AND rating >=9.0;

C D **Q2:** Which SQL query (or queries) will get the list of artists, without duplicates, who have produced at least one song more than 5 minutes long?

≥1

There can be more than one correct answer. At least one answer is correct.

Check all that apply.

artist len
A 301
A 302

A. SELECT artist_name FROM Songs WHERE length_seconds > 300 GROUP BY artist_name, length_seconds HAVING COUNT(*) >= 1; dup.

B. SELECT artist_name FROM Songs GROUP BY artist_name, length_seconds HAVING length_seconds > 300; dup.

C. SELECT DISTINCT artist_name FROM Songs WHERE length_seconds > 300;

D. SELECT artist_name FROM Songs WHERE length_seconds > 300 GROUP BY artist_name;

Pete loves the sea and he wants to keep track of all his boats.Below is the schema he implemented for his boats:

```
Boats {bid int,
color varchar(20),primarykey(bid)
}

Sailors {sid int,
sname varchar(50),primarykey(sid)
}
```

not ∃ (A and ∃ B).

∀ (not A or not ∃B)

```
Reserves {sid int,bid int,
r_date char(10),
primarykey(sid, bid, r_date),foreignkey(sid) references Sailors,foreignkey(bid) references Boats
}
```

Matthew wanted to test Pete's brain by asking him to decode challenging SQL queries based on his boats database! Help Pete out by telling him what each query returns.

[A]

Names of Sailors not exist (boat_id : Boat =red AND exist (Reserve. Reserve =boat Reserve != sailor).

```
SELECT S.sname FROM Sailors SWHERE NOT EXISTS
  (SELECT B.bid FROM Boats BWHERE B.color='red'
  AND EXISTS
    (SELECT R.bid FROM Reserves R
    WHERE R.bid=B.bid AND R.sid!=S.sid));
```

[B]

```
SELECT S.sname
FROM Sailors S, Reserves R
WHERE S.sid = R.sid
GROUP BY S.sname, S.sid
HAVING COUNT(DISTINCT R.bid)=
  (SELECT COUNT (*)
  FROM Boats
  WHERE color=’red’);
```

[C]

```
SELECT sname
FROM
  (SELECT ~~sid~~ Resere.sid
  FROM Reserves
  EXCEPT
    (SELECT ~~sid~~ Resere.sid
    FROM
```

A

Q3: What does query A return?

Only one correct answer.

A. Names of sailors for whom all red boats have been reserved by no other sailor
B. Names of sailors for whom some pink boats have been reserved by some other sailor
C. Names of sailors for whom all pink boats have been reserved by some other sailor
D. Names of sailors for whom some red boats have been reserved by no other sailor
E. Names of sailors for whom all pink boats have been reserved by no other sailor

D

Q4: What does query B return?

Only one correct answer.

A. Names of sailors who have reserved only red boats
B. Names of sailors who have reserved all red boats
C. Names of sailors who have reserved as many distinct boats as the number of all pi
boats
D. Names of sailors who have reserved as many distinct boats as the number of all red boa
E. Names of sailors who have reserved as many distinct boats as the number of all pi
boats that have ever been reserved

D

Q5: What does query C return?

Only one correct answer.

A. Names of sailors who have never reserved a pink boat
B. Names of sailors who have reserved some boat
C. Names of sailors who have reserved some pink boat
D. Names of sailors who have reserved all pink boats

Except: NOT

```
(SELECT Reserves.sid, PinkBoats.bid
FROM Reserves,
   (SELECT bid
   FROM Boats
   WHERE color='pink') PinkBoats
   EXCEPT
   (SELECT sid, bidFROM Reserves)))
   R, Sailors SWHERE R.sid = S.sid;
() R, Sailors S
WHERE R.sid = S.sid;
```

pinkboads.

A

Q3: What does query A return?

Only one correct answer.

A. Names of sailors for whom all red boats have been reserved by no other sailor

B. Names of sailors for whom some pink boats have been reserved by some other sailor

C. Names of sailors for whom all pink boats have been reserved by some other sailor

D. Names of sailors for whom some red boats have been reserved by no other sailor

E. Names of sailors for whom all pink boats have been reserved by no other sailor

D

Q4: What does query B return?

Only one correct answer.

A. Names of sailors who have reserved only red boats

B. Names of sailors who have reserved all red boats

C. Names of sailors who have reserved as many distinct boats as the number of all pink boats

D. Names of sailors who have reserved as many distinct boats as the number of all red boats

E. Names of sailors who have reserved as many distinct boats as the number of all pink boats that have ever been reserved

D

Q5: What does query C return?

Only one correct answer.

A. Names of sailors who have never reserved a pink boat

B. Names of sailors who have reserved some boat

C. Names of sailors who have reserved some pink boat

D. Names of sailors who have reserved all pink boats