**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)

**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.*

1. SELECT COUNT(\*) FROM Songs GROUP BY year\_released, rating HAVING year\_released < 2010 AND rating >= 9.0;
2. SELECT COUNT(\*) FROM Songs WHERE rating >= 9.0 GROUP BY year\_released HAVING year\_released < 2010;
3. SELECT COUNT(\*) FROM Songs WHERE year\_released < 2010 AND rating >= 9.0;
4. SELECT COUNT(song\_id) FROM Songs WHERE year\_released < 2010 AND rating >=9.0;

**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?

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

*Check all that apply.*

1. SELECT artist\_name FROM Songs WHERE length\_seconds > 300 GROUP BY artist\_name, length\_seconds HAVING COUNT(\*) >= 1;
2. SELECT artist\_name FROM Songs GROUP BY artist\_name, length\_seconds HAVING length\_seconds > 300;
3. SELECT DISTINCT artist\_name FROM Songs WHERE length\_seconds > 300;
4. 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)

}

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]

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

FROM Reserves

EXCEPT

(SELECT sid

FROM

(SELECT Reserves.sid, PinkBoats.bid

FROM Reserves,

(SELECT bid

FROM Boats

WHERE color=’pink’) PinkBoats

EXCEPT

(SELECT sid, bid

FROM Reserves

)

)

)

)

R, Sailors S

WHERE R.sid = S.sid;

**Q3:** What does query A return?

*Only one correct answer.*

1. Names of sailors for whom all red boats have been reserved by no other sailor
2. Names of sailors for whom some pink boats have been reserved by some other sailor
3. Names of sailors for whom all pink boats have been reserved by some other sailor
4. Names of sailors for whom some red boats have been reserved by no other sailor
5. Names of sailors for whom all pink boats have been reserved by no other sailor

**Q4:** What does query B return?

*Only one correct answer.*

1. Names of sailors who have reserved only red boats
2. Names of sailors who have reserved all red boats
3. Names of sailors who have reserved as many distinct boats as the number of all pink boats
4. Names of sailors who have reserved as many distinct boats as the number of all red boats
5. Names of sailors who have reserved as many distinct boats as the number of all pink boats that have ever been reserved

**Q5:** What does query C return?

*Only one correct answer.*

1. Names of sailors who have never reserved a pink boat
2. Names of sailors who have reserved some boat
3. Names of sailors who have reserved some pink boat
4. Names of sailors who have reserved all pink boats