

COMP 3005
Assignment #3
Due: February 25

Instruction

1. You should do the assignments independently. Copying is not allowed.
2. This assignment is based on the Sailer-Boat database shown below.
3. Submit your assignment as a single word/PDF document on [culearn](#).

Sailer

<u>S#</u>	Name	Age
S1	Smith	20
S2	Jones	30
S3	Blake	25
S4	<i>Lastname</i>	20
S5	Adams	30

Boat

<u>B#</u>	Name	Color
B1	Freedom	Blue
B2	Paradise	Green
B3	Miracle	Red
B4	Splendor	Yellow

Reservation

<u>S#</u>	<u>B#</u>	Day
S1	B1	1-Jan-15
S1	B2	2-Jan-16
S1	B3	3-Feb-17
S1	B4	4-Feb-18
S2	B1	5-Mar-16
S2	B2	6-Mar-17
S2	B3	7-Apr-18
S3	B1	8-May-17
S3	B2	9-Jul-17
S4	B1	10-Sep-17

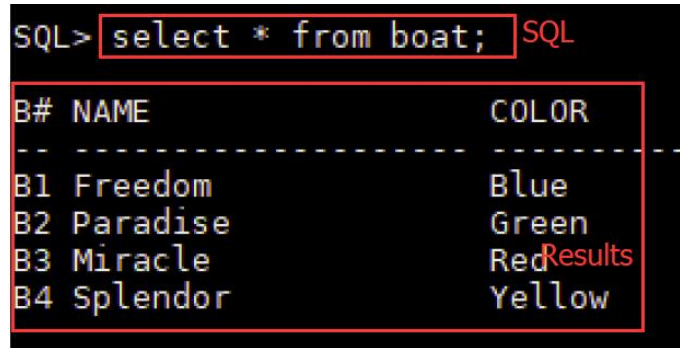
Part 1 (30 marks)

Use Domain Relational Calculus (DRC) to express the following 10 queries. Each query is 3 marks. Query results are not required for this part.

1. Get name of boat that "*Lastname*" reserves.
2. Get sailer names for sailers who reserve Paradise.
3. Get sailer names for sailers who do not reserve any boat.
4. Get all pairs of sailer names such that the sailers concerned reserve at least one same boat.
5. Get sailer names for sailers who reserve all boats.
6. Get sailer names for sailers who reserve all boats except Splendor.
7. Get sailer names for sailers who reserve all boats that *Lastname* reserves.
8. Get sailer names for sailers who reserve only the boats that *Lastname* reserves
9. Get sailer names and the number of boats they reserve.
10. Get sailer names for sailers who reserve more than two boats.

Part 2 (80 marks)

Use SQL to express the following queries. You should enter your statements on Oracle VM or other SQL engine and take necessary screenshot for the statement and the query result as the following screenshot and put the screenshots in your word/PDF file to be submitted. Each query is 3 mark and the result is 2 marks. **If the statement and query result are not on the same screenshot, you will get 0 mark.**



```
SQL> select * from boat; SQL
```

B#	NAME	COLOR
B1	Freedom	Blue
B2	Paradise	Green
B3	Miracle	Red
B4	Splendor	Yellow

1. Get name of boat that “*Lastname*” reserves.
2. Get sailer names for sailers who reserve Paradise using *EXISTS*.
3. Get sailer names for sailers who reserve Paradise using *IN*
4. Get sailer names for sailers who reserve Paradise using a flat query
5. Get sailer names for sailers who do not reserve any boat.
6. Get the names of the boats that Jones reserves but “*Lastname*” does not reserve using *MINUS*
7. Get all pairs of sailer names such that the sailers concerned reserve at least one same boat.
8. Get sailer names for sailers who reserve all boats.
9. Get sailer names for sailers who reserve all boats except Splendor.
10. Get sailer names for sailers who reserve all boats that *Lastname* reserves.
11. Get sailer names for sailers who reserve only the boats that *Lastname* reserves
12. Get sailer names and the number of boats they reserve.
13. Get sailer names for sailers who reserve more than two boats without using *HAVING*.
14. Get sailer names for sailers who reserve more than two boats using *HAVING*.
15. Get complete information of each sailer such that when the sailer reserves a boat, list boat detail; when the sailer does not reserve any boat, just list the sailer information.
16. Get sailer names and the number of boats that the sailer reserves. If the sailer does not reserve any boat, leave it null.