1) Find sailors whose rating is better than some sailor called Horatio. (Any)

SQL> select s.sid from sailors s where s.rating > any (select s2.rating from sailors s2 where s2.name = 'horatio');

Output:

SID
58
71
31
32

2) Find the sailors with the highest rating. (All)

SQL > select s.sid from sailors where s.rating >= all (select s2.rating from sailors s2);

Output:

SID
58
71

3) Find the names of sailors who have reserved both a red and a green boat. (In)

SQL> select s.name from sailors s, reserves r, boats b, where s.sid = r.sid and r.bid = b.bid and b.colour = 'red' and s.name in (select s2.sname from sailors s2, boats b2, reserves r2, where s2.sid = r2.sid and r2.bid = b2.bid and b2.color = 'green';

output

SNAME
dustin
dustin
lubber
lubber

4) Find the names of sailors who have reserved boat 103.(Exists)

```
SQL> select Sname from Sailors S where
exists (select * from reserves r where
r.bid = 103 and r.Sid = S.Sid);
```

output:

```
SNAME
-----
Dustin
Lubber
Horatio
```

5) Find the names of sailors who have reserved all boats. (Not exists)

```
SQL> select Sname from sailors S where
not exists (select b.bid from boats b where
not exists (select r.bid from reserves r
where r.bid = b.bid and r.Sid = S.Sid);
```

output:

```
SNAME
-----
Dustin
```

6) Find the names of sailors who have reserved a red and a green boat. (Union)

```
SQL> select sname from sailors s, reserves
r, boats b where s.sid = r.sid and
r.bid = b.bid and b.color = 'red'
Union
select S2.sname from sailors S2, reserves r2,
boats b2 where S2.sid = r2.sid and
r2.bid = b2.bid and b2.color = 'green';
```

output:

```
SNAME
-----
Dustin
```

7) Find the names of sailors who have reserved both a red and a green boat. (Intersect)

```
SQL > select Sname from Sailors S, reserves R,
 r, boats b where S.sid = r.bid and
 b.color = 'red'
Intersect
Select S2.Sname from sailors S2,
reserves R2, boats b2 where S2.sid =
R2.sid and R2.bid = b2.bid and b2.color
 = 'green';
```

output:

SNAME
Dustin
Horatio
Lubber

8) Find the names of sailors who have reserved a red and a green boat. (Union All)

```
SQL > select S.sname from sailors S, reserves R,
boats b, where S.sid = r.sid and
R.bid = b.bid and b.color = "red"
Union all
Select S2.sname from sailors S2, boats b2
reserves R2 where S2.sid = r2.sid and
r2.bid = b2.bid and b2.color = "green";
Output
```

SNAME
Dustin Lubber Horatio
Dustin Horatio
Dustin Dustin
Lubber Lubber

VIVA QUE

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4. D
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5.
Ans.

Create the above tables using DDL and DML commands and perform the following Queries

1) Find the names of sailors who have reserved red boat (Nested query)

```
Select S.name from Sailors S where
S.Sid in(select R.Sid from reserves R
where R.bid in(select b.bid from boats
b where b.color = 'red'));
```

OUTPUT

```
SNAME
- - - -
dustin
lubber
horatio
```

2) Find the names of sailors who have reserved boat number 103(Correlated Nested query)

```
SQL > select s.sname from sailors s
where exists (select * from reserves
r where r.bid = 103 and r.sid = s.sid);
```

OUTPUT

```
SNAME
-----
dustin
lubber
```


SQL JOIN

The SQL Joins clause is
JOIN is a means for comb

Customer table

Id	Name	Age
1	Ramesh	32
2	Khilan	25
3	Kaushik	23
4	Chaitali	25
5	Hardik	27
6	Komal	22
7	Muffy	24

There are different ty

- INNER JOIN "
- LEFT JOIN " r
  table.
- RIGHT JOIN
  table.
- FULL JOIN
- SELF JOIN
  renaming a
- CARTESI
  more joine

INNER JOI

SELECT co

1) Find the average age of sailors with a rating of 10?

```
SQL> select avg(age) from sailors
where rating=10;
```

AVG(AGE)
25.5

2) Find the name and age of the oldest sailor?

```
SQL> select sname, age from sailors
where age=(select max(age) from sailors);
```

output:-

SNAME	AGE
Bob	63.5

3) Write the query t

```
SQL> S
from
```

output:

COUNT

4) Find the a

```
SQL>
sail
```

RA

3) Write the query to Count the number of different sailor names?

```
SQL> select count (distinct sname)
     from sailors;
```

output:

```
COUNT (DISTINCT SNAME)
----------------------
                     9
```

4) Find the age of the youngest sailor for each rating level?

```
SQL> select rating, min(age) from
sailors group by rating;
```

RATING	MIN(AGE)
1	33
8	~~25~~ 25.5
7	35
3	25.5
10	16
9	35

5) Find the sum of ages of sailors whose rating is above 9?

```
SQL> select sum(age) from sailors
where rating > 9;

SUM(AGE)
---------
       51
```

6) Find the average age of sailors for each rating level that has at least two sailors?(group by and Having)

```
select rating, avg(age) as average
from sailors group by rating having
count (*) >1;
```

RATING	AVERAGE
8	40.5
7	40
3	44.5
10	25.5

END IF;

END

Write a PL/SQL code for creation of Trigger to insert data into a table

```
SQL> Create or replace trigger11
before
insert on sailors
for each raw
begin
:new.Sname:=upper(:new.sname);
end;
/
Trigger created
```

OUTPUT

```
insert into sailors values (22, 'dustin');
select * from sailors;

SID    SNAME
---    -----
22     DUSTIN
```

Write a PL/SQL code for creation of trigger to UPDATE data into a table:

```
SQL> Create trigger12
     after update of sid on sailors
     for each row
     begin
     if:new.sid<80) then
     raise_application_error(-20067,'Cant
                              update');
     end if;
     end;
     /
Trigger created
```

OUTPUT

```
SQL> update sailors set sid=69 where
        sname='dustin';
update sailors set sid=69 where sname='dusti
ERROR at line 1
ORA-20067: Cant update
ORA-06512: at "SAOMY4738.T12", line 4
ORA-04088: error during execution of trigg
     SAOMY4738.T12'
```

PL/SQL code for creation of trigger to delete data into a table

```
SQL> create trigger t6
     after
     delete on sailors
     for each row
     begin
     if:old.sid=22 then
     raise_application_error
     (-20019:'you can't delete this row');
     end if;
     end;
     /
Trigger created
```

OUTPUT

```
SQL> delete from sailors where sid=22;
delete from sailors where sid=22
       *
ERROR at line1:
ORA-20010: you cant delete this row
ORA-06512: at "SOWMYA738.T6", line 3
ORA-04088: error during execution of trigger
'SOWMYA738.T6'
```

Write a PL/SQL code for creation of procedure to view some specified columns from a table:

```
SQL> Create or replace procedure P_sail (sid1 in
                                          number)
is
v_sname char(9);
v_age number;
begin
select sname, age into v_same, v_age
                from sailors19 where sid=sid1;
dbms_output.put_line ('sname: '||v_sname);
dbms_output.put_line ('age: '||v_age);
end;
/
Procedure Created
```

OUTPUT

```
SQL> set serveroutput on
SQL> execute P_sail(22);
sname: dustin
age : 45
Procedure successfully completed.
```

5. PL/SQL code for modification of procedure to view some specified columns
available

```
SQL> Create or replace procedure P_sail
(sid1 in sailors.sid %. type, V_Sname
in sailors.sname %. type, V_age in
sailors.age %. type)
is
begin
update set sname = V_Sname, age =
                V_age where sid = sid1;

Commit;
end;
/
Procedure created.
```

Experiment-11

· Cursors

```
SQL > set serveroutput on
SQL > declare eid emp.15.emp_no %. type,
      ename emp15. empname %. type;
      dept emp15. emp_dept %. type;
      sal emp15 emp_sal %. type;
      Cursor c1 is select emp_no, empname,
            emp_dept, emp_sal from emp15;
      begin
      open c1;
      loop
      fetch c1 into eid, ename, dept, sal;
      exit when c1 %. not found
      dbms_output. put_line (eid|| ' '||
            ename|| ' '||dept|| ' '||sal);
      endloop;
      close c1;
      end;
      /
```

output:

```
22 dustin      cse     20000
23 luber       csd     40000
Procedure successfully completed.
```

AIM

Write a PL/SQL program that uses cursor operation on any data base.

~~set serveroutput on~~

```
SQL > declare v_sname sailors.sname%type;
      v_age sailors.age%type;
      cursor c2 is select sname, age from
                   sailors;
      begin
      open c2;
      loop
      fetch c2 into v_sname, v_age;
       exit
      when c2 %.rowcount>3;
      dbms_output.put_line(v_sname||' '||
                           v.age);
      end loop;
      close c2;
      end;
      /
```