Practical 4

Name: Gaurav Kedia

Roll No: E-39

```
SQL> DESC SAILORS;
 Name                                                  Null?    Type
 ----------------------------------------------------- -------- ------------------------------------
-
 SID                                                   NOT NULL NUMBER(38)
 SNAME                                                          VARCHAR2(20)
 RATING                                                         NUMBER(38)
 AGE                                                            NUMBER(4,1)


SQL> DESC RESERVES
 Name                                                  Null?    Type
 ----------------------------------------------------- -------- ------------------------------------
-
 SID                                                   NOT NULL NUMBER(38)
 BID                                                   NOT NULL NUMBER(38)
 DAY                                                   NOT NULL DATE

SQL> DESC BOATS
 Name                                                  Null?    Type
 ----------------------------------------------------- -------- ------------------------------------
-
 BID                                                   NOT NULL NUMBER(38)
 BNAME                                                          VARCHAR2(20)
 COLOR                                                          VARCHAR2(20)
```

--QUERY 1
--1.Find the name and age of the oldest sailor

```
SQL> SELECT MAX(AGE)"MAX-AGE"
  2  FROM SAILORS;

   MAX-AGE
----------
      63.5

SQL> SELECT SNAME, AGE
  2  FROM SAILORS
  3  WHERE AGE = (SELECT MAX(AGE) FROM SAILORS);

SNAMEAGE
---------- ----------
Bob                63.5
```

--QUERY 2
--2.Find the names of sailors who have reserved boat number 103.

```
SQL> SELECT SID
  2  FROM RESERVES
  3  WHERE BID = 103;

       SID
----------
        22
        31
        74

SQL> SELECT SNAME
  2  FROM SAILORS
  3  WHERE SID IN (SELECT SID FROM RESERVES WHERE BID = 103);

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

SQL> SELECT BID
  2  FROM BOATS
  3  WHERE COLOR = 'RED';

no rows selected


SQL> SELECT * FROM BOATS;

       BID BNAME                COLOR
---------- ---------------------------------------- ----------------------------------------
       101 Interlake            blue
       102 Interlake            red
       103 Clipper              green
       104 Marine               red

SQL> SELECT BID
  2  FROM BOATS
  3  WHERE COLOR = 'red';

       BID
----------
       102
       104
```

--QUERY 3
--3.Find the sids of sailors who have reserved a red boat.

```
SQL> SELECT SID
  2  FROM RESERVES
  3  WHERE BID IN (SELECT BID FROM BOATS WHERE COLOR ='red');

       SID
----------
        22
        22
        31
        31
        64
```

--QUERY 4

--4.Find the names of sailors who have reserved a red boat.

```
SQL> SELECT SNAME
  2  FROM SAILORS
  3  WHERE SID IN (SELECT SID FROM RESERVES WHERE BID IN (SELECT BID FROM BOATS
WHERE COLOR ='red'));

SNAME
--------------------------------
Dustin
Lubber
Horataio

SQL> SELECT * FROM SAILORS;

       SID SNAME                          RATING        AGE
---------- ---------------------------------------- ---------- ----------
        22 Dustin                              7         45
        29 Brutus                              1         33
        31 Lubber                              8       55.5
        32 Andy                                8       25.5
        58 Rusty                              10         35
        64 Horataio                            7         35
        71 Zorba                              10         16
        74 Horataio                            9         35
        85 Art                                 3       25.5
        95 Bob                                 3       63.5

10 rows selected.

SQL> SELECT * FROM RESERVES;

       SID        BID DAY
---------- ---------- ---------
        22        101 10-OCT-98
        22        102 10-OCT-98
        22        103 08-OCT-98
        22        104 07-OCT-98
        31        102 10-NOV-98
```

```
        31        103 06-NOV-98
        31        104 12-NOV-98
        64        101 05-SEP-98
        64        102 08-SEP-98
        74        103 08-SEP-98

10 rows selected.

SQL> SELECT * FROM BOATS;

       BID BNAME                COLOR
---------- ---------------------------------------- ----------
       101 Interlake            blue
       102 Interlake            red
       103 Clipper              green
       104 Marine               red
```

--QUERY 5
--5. Find the colors of boats reserved by Lubber.

```
SQL> SELECT COLOR
  2  FROM BOATS
  3  WHERE BID IN (SELECT BID FROM RESERVES WHERE SID IN (SELECT SID FROM
SAILORS WHERE SNAME = 'Lubber'));

COLOR
--------------------------------------------------
red
green
red

SQL> SELECT unique(COLOR)
  2  FROM BOATS
  3  WHERE BID IN (SELECT BID FROM RESERVES WHERE SID IN (SELECT SID FROM
SAILORS WHERE SNAME = 'Lubber'));

COLOR
--------------------------------------------------
green
red
```

--QUERY 6
--6. Find the names of sailors who have reserved at least one boat.

```
SQL> SELECT COUNT(*)
  2  FROM RESERVES
  3  GROUP BY SID;

  COUNT(*)
----------
         4
         3
```

```
         2
         1

SQL> SELECT SID, COUNT(*)
  2  FROM RESERVES
  3  GROUP BY SID;

       SID   COUNT(*)
----------------------------------------
         22          4
         31          3
         64          2
         74          1

SQL> SELECT SNAME
  2  FROM SAILORS
  3  WHERE SID IN (SELECT SID FROM (SELECT SID, COUNT(*)"NUM" FROM RESERVES
GROUP BY SID) WHERE NUM > 2);

SNAME
--------------------------------------------------
Dustin
Lubber

SQL> SELECT SNAME
  2  FROM SAILORS
  3  WHERE SID IN (SELECT SID FROM (SELECT SID, COUNT(*)"NUM" FROM RESERVES
GROUP BY SID) WHERE NUM >= 1);

SNAME
--------------------------------------------------
Dustin
Lubber
Horataio
Horataio
```

--QUERY 7
--7. Find names of sailors who've reserved a red or a green boat

```
SQL> SELECT SNAME
  2  FROM SAILORS
  3  WHERE SID IN (SELECT SID FROM RESERVES WHERE BID IN (SELECT BID FROM BOATS
WHERE COLOR IN ('red', 'green')));

SNAME
--------------------------------------------------
Dustin
Lubber
Horataio
Horataio
```

--QUERY 9
--9. Find names of all sailors who've reserved red boat but not green

```
SQL> SELECT SNAME
  2  FROM SAILORS
  3  WHERE SID IN (
  4  (SELECT SID FROM RESERVES WHERE BID IN (SELECT BID FROM BOATS WHERE
COLOR='red'))
  5  MINUS
  6  (SELECT SID FROM RESERVES WHERE BID IN (SELECT BID FROM BOATS WHERE
COLOR='green'))
  7 );

SNAME
--------------------------------------------------
Horatio

SQL> SELECT SNAME
  2  FROM SAILORS
  3  WHERE SID IN (
  4  (SELECT SID FROM RESERVES WHERE BID IN (SELECT BID FROM BOATS WHERE
COLOR='red'))
  5  INTERSECT
  6  (SELECT SID FROM RESERVES WHERE BID IN (SELECT BID FROM BOATS WHERE
COLOR='green'))
  7 );

SNAME
--------------------------------------------------
Dustin
Lubber


SQL> SELECT S.SID
  2  FROM SAILORS S, RESERVES R
  3  WHERE S.SID = R.SID
  4  AND (S.RATING = 10 OR R.BID = 104);

       SID
----------
        22
        31


SQL> SELECT *
  2  FROM SAILORS S, RESERVES R
  3  WHERE S.SID = R.SID
  4  AND (S.RATING = 10 OR R.BID = 104);

       SID SNAME                          RATING         AGE         SID         BID
---------- ---------------------------------------- ---------- ---------- ---------- ----------
DAY
```

```
----------
        22 Dustin                           7         45         22        104
07-OCT-98

        31 Lubber                           8       55.5         31        104
12-NOV-98


SQL> LINESIZE 200
SP2-0734: unknown command beginning "LINESIZE 2..." - rest of line ignored.
SQL> LINE SIZE 200
SP2-0734: unknown command beginning "LINE SIZE ..." - rest of line ignored.
SQL> SET LINESIZE 200
SQL> SELECT *
  2  FROM SAILORS S, RESERVES R
  3  WHERE S.SID = R.SID
  4  AND (S.RATING = 10 OR R.BID = 104);

       SID SNAME                          RATING        AGE        SID        BID DAY
---------- ---------------------------------------- ---------- ---------- ---------- ------
---------------------------------
        22 Dustin                           7         45         22        104 07-
OCT-98
        31 Lubber                           8       55.5         31        104 12-
NOV-98
```

--QUERY 10
--10. Find names of sailors whoâ€™ve reserved boat #103
SELECT SNAME FROM RESERVES NATURAL JOIN SAILORS WHERE BID=103;

```
SQL> SELECT SNAME
  2  FROM SAILORS
  3  WHERE SID IN (SELECT SID FROM RESERVES WHERE BID = 103);

SNAME
----------------------------------------
Dustin
Lubber
Horataio

SQL> SELECT SNAME
  2  FROM SAILORS
  3  WHERE SID NOT IN (SELECT SID FROM RESERVES WHERE BID = 103);

SNAME
----------------------------------------
Zorba
Art
Horataio
Rusty
Andy
```

```
Brutus
Bob

7 rows selected.

SQL> SELECT SID
  2  FROM RESERVES
  3  WHERE BID = 103;

       SID
----------
        22
        31
        74


SQL> SELECT *
  2  FROM RESERVES
  3  WHERE BID = 103;

       SID        BID DAY
---------- ---------- ---------
        22        103 08-OCT-98
        31        103 06-NOV-98
        74        103 08-SEP-98

SQL> SELECT * FROM RESERVES;

       SID        BID DAY
---------- ---------- ---------
        22        101 10-OCT-98
        22        102 10-OCT-98
        22        103 08-OCT-98
        22        104 07-OCT-98
        31        102 10-NOV-98
        31        103 06-NOV-98
        31        104 12-NOV-98
        64        101 05-SEP-98
        64        102 08-SEP-98
        74        103 08-SEP-98

10 rows selected.

SQL> SELECT SID, COUNT(*)
  2  FROM RESERVES
  3  WHERE BID = 103
  4  GROUP BY SID;

       SID   COUNT(*)
---------- ----------
        22          1
        31          1
```

```
        74          1

SQL> SELECT SNAME
  2  FROM SAILORS
  3  WHERE SID IN (SELECT SID FROM RESERVES WHERE BID=103 GROUP BY SID);

SNAME
----------------------------------------
Dustin
Lubber
Horataio

SQL> SELECT *
  2  FROM SAILORS
  3  WHERE RATING > (SELECT MAX(RATING) FROM (SELECT * FROM SAILORS WHERE
SNAME='Horatio'));

no rows selected

SQL> SELECT MAX(RATING)
  2  FROM (SELECT * FROM SAILORS WHERE SNAME='Horatio');

MAX(RATING)
-----------


SQL> SELECT * FROM SAILORS WHERE SNAME='Horatio';

no rows selected


SQL> SELECT * FROM SAILORS;

       SID SNAME                          RATING        AGE
---------- ---------------------------------- ---------- ----------
         22 Dustin                              7         45
         29 Brutus                              1         33
         31 Lubber                              8       55.5
         32 Andy                                8       25.5
         58 Rusty                              10         35
         64 Horataio                            7         35
         71 Zorba                              10         16
         74 Horataio                            9         35
         85 Art                                 3       25.5
         95 Bob                                 3       63.5

10 rows selected.
```

--14. Find sailors whose rating is better than every sailor called Horatio

```
SQL> SELECT *
```

2 FROM SAILORS

```
  3  WHERE RATING > (SELECT MAX(RATING) FROM (SELECT * FROM SAILORS WHERE
SNAME='Horataio'));

       SID SNAME                          RATING        AGE
---------- ---------------------------------------- ---------- ----------
        58 Rusty                              10         35
        71 Zorba                              10         16
```

--QUERY 13

--13. Find sailors whose rating is greater than that of some sailor calledHoratio

```
SQL> SELECT *
  2  FROM SAILORS
  3  WHERE RATING > (SELECT MIN(RATING) FROM (SELECT * FROM SAILORS WHERE
SNAME='Horataio'));

       SID SNAME                          RATING        AGE
---------- ---------------------------------------- ---------- ----------
        31 Lubber                              8       55.5
        32 Andy                                8       25.5
        58 Rusty                              10         35
        71 Zorba                              10         16
        74 Horataio                            9         35
```

--QUERY 15

--15. Find the sailors with the highest rating.

```
SQL> SELECT *
  2  FROM SAILORS
  3  WHERE RATING = (SELECT MAX(RATING) FROM SAILORS);

       SID SNAME                          RATING        AGE
---------- ---------------------------------------- ---------- ----------
        58 Rusty                              10         35
        71 Zorba                              10         16
```

--QUERY 16

--16. Find names of sailors whoâ€™ve reserved all boats.

```
SELECT SNAME FROM SAILORS
WHERE SID IN (
SELECT DISTINCT SID FROM RESERVES
MINUS SELECT DISTINCT YY.SID FROM
SELECT ((SELECT * FROM (SELECT SID FROM RESERVES)
CROSS JOIN (SELECT BID FROM BOATS))
MINUS (SELECT SID,BID FROM RESERVES ))YY
);
SNAME
--------------------------------------------------
Dustin
```

--QUERY 17

--17. Count the number of SailorSELECT COUNT(*) FROM SAILORS;

```
SQL> SELECT COUNT(*)"SAILOR-COUNT" FROM SAILORS;

SAILOR-COUNT
------------
          10
```

--QUERY 18
--18. Count the number of different sailor namesSELECT COUNT(DISTINCT(SNAME)) FROM SAILORS;

```
SQL> SELECT SNAME, COUNT(*)"NAME-COUNT"
  2  FROM SAILORS
  3  GROUP BY SNAME;

SNAME                NAME-COUNT
-------------------- ----------
Rusty                         1
Lubber                        1
Brutus                        1
Andy                          1
Art                           1
Bob                           1
Dustin                        1
Horataio                      2
Zorba                         1

9 rows selected.
```

--QUERY 19
--19. Find the average age of all sailors
SELECT AVG(AGE) FROM SAILORS;

```
SQL> SELECT AVG(AGE)"AVERAGE-AGE"
  2  FROM SAILORS;

AVERAGE-AGE
-----------
       36.9
```

--QUERY 20
--20. Find the average age of sailors with rating of 10SELECT AVG(AGE) FROM SAILORS WHERE RATING=10;

```
SQL> SELECT AVG(AGE)"AVERAGE-AGE"
```

```
2  FROM SAILORS
3  WHERE RATING = 10;
```

--QUERY
--21.Count the number of boats reserved by each sailor(display sailors name and count)

```
AVERAGE-AGE
-----------
       25.5

SQL> SELECT SNAME
  2  FROM SAILORS S, RESERVES R
  3  WHERE S.SID = R.SID;

SNAME
----------
Dustin
Dustin
Dustin
Dustin
Lubber
Lubber
Lubber
Horataio
Horataio
Horataio

10 rows selected.

SQL> SELECT * FROM SAILORS;

       SID SNAME                          RATING        AGE
---------- ------------------------------ ---------- ----------
        22 Dustin                              7         45
        29 Brutus                              1         33
        31 Lubber                              8       55.5
        32 Andy                                8       25.5
        58 Rusty                              10         35
        64 Horataio                            7         35
        71 Zorba                              10         16
        74 Horataio                            9         35
        85 Art                                 3       25.5
        95 Bob                                 3       63.5

10 rows selected.

SQL> SELECT SID
  2  FROM RESERVES
  3  WHERE NOT EXISTS (SELECT BID FROM RESERVES WHERE BID = 103);

no rows selected

SQL> SELECT * FROM RESERVES;
```

```
SID         BID DAY

 22         101 10-OCT-98
 22         102 10-OCT-98
```

```
        22        103 08-OCT-98
        22        104 07-OCT-98
        31        102 10-NOV-98
        31        103 06-NOV-98
        31        104 12-NOV-98
        64        101 05-SEP-98
        64        102 08-SEP-98
        74        103 08-SEP-98

10 rows selected.

SQL> SELECT SID
  2  FROM RESERVES
  3  WHERE NOT EXISTS (SELECT BID FROM RESERVES WHERE BID = 103);

no rows selected

SQL> SELECT SID
  2  FROM RESERVES R1
  3  WHERE NOT EXISTS (SELECT BID FROM RESERVES R2 WHERE R2.BID = 103 AND
R1.SID = R2.SID);

       SID
----------
        64
        64


SQL> SELECT SID
  2  FROM RESERVES R1
  3  WHERE NOT EXISTS (SELECT UNIQUE BID FROM RESERVES R2 WHERE R2.BID = 103
AND R1.SID = R2.SID);

       SID
----------
        64
        64

SQL> SELECT SNAME
  2  FROM SAILORS S
  3  WHERE NOT EXISTS (SELECT UNIQUE * FROM RESERVES R WHERE R.BID = 103 AND
S.SID = R.SID);

SNAME
----------------------------------------
Zorba
Art
Horataio
Rusty
Andy
Brutus
Bob
```

```
7 rows selected.

SQL> SELECT SNAME
  2  FROM SAILORS S
  3  WHERE EXISTS (SELECT UNIQUE * FROM RESERVES R WHERE R.BID = 103 AND S.SID
= R.SID);

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

SQL> SELECT S.SNAME
  2  FROM SAILORS S
  3  WHERE NOT EXISTS (SELECT B.BID FROM BOATS B
  4  WHERE NOT EXISTS (SELECT R.BID FROM RESERVES R
  5  WHERE R.BID = B.BID AND R.SID=S.SID));

SNAME
----------------------------------------------
Dustin

SQL> SELECT BID
  2  FROM BOATS;

       BID
----------
       101
       102
       103
       104


SQL> SELECT S.SNAME
  2  FROM SAILORS S
  3  WHERE NOT EXISTS
  4  (
  5  (SELECT B.BID
  6  FROM BOATS B)
  7  MINUS
  8  (SELECT R.BID
  9  FROM RESERVES R
 10  WHERE R.SID=S.SID)
 11  );

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

--QUERY

--21. Count the number of boats reserved by each sailor(display sailors name and count)

```
SQL> SELECT SNAME
  2  FROM SAILORS
  3  WHERE SID IN ( SELECT SID FROM RESERVES GROUP BY SID HAVING
COUNT(UNIQUE(BID)) >= (SELECT COUNT(*) FROM BOATS));

SNAME
----------------------------------------------
Dustin

SQL> SPOOL OFF
```

--QUERY

--21. Count the number of boats reserved by each sailor(display sailors nameand count)

```
SQL> SET LINESEZE 200
SP2-0158: unknown SET option "LINESEZE"
SQL> SET LINESIZE 200
SQL> SELECT *
  2  FROM SAILORS S, RESERVES R
  3  WHERE S.SID = R.SID;

       SID SNAME                          RATING        AGE        SID        BID DAY
---------- ---------------------------------------- ---------- ---------- ---------- ---------
---------
        22 Dustin                              7         45         22        101 10-
OCT-98
        22 Dustin                              7         45         22        102 10-
OCT-98
        22 Dustin                              7         45         22        103 08-
OCT-98
        22 Dustin                              7         45         22        104 07-
OCT-98
        31 Lubber                              8       55.5         31        102 10-
NOV-98
        31 Lubber                              8       55.5         31        103 06-
NOV-98
        31 Lubber                              8       55.5         31        104 12-
NOV-98
        64 Horataio                            7         35         64        101 05-
SEP-98
        64 Horataio                            7         35         64        102 08-
SEP-98
        74 Horataio                            9         35         74        103 08-
SEP-98

10 rows selected.

SQL> SELECT *
```

```
2  FROM SAILORS S RIGHT JOIN RESERVES R
3  ON S.SID = R.SID;
```

```
       SID SNAME                          RATING         AGE         SID         BID DAY
---------- ---------------------------------------- ---------- ---------- ---------- ---------
        22 Dustin                              7         45         22        104 07-
OCT-98
        22 Dustin                              7         45         22        103 08-
OCT-98
        22 Dustin                              7         45         22        102 10-
OCT-98
        22 Dustin                              7         45         22        101 10-
OCT-98
        31 Lubber                              8       55.5         31        104 12-
NOV-98
        31 Lubber                              8       55.5         31        103 06-
NOV-98
        31 Lubber                              8       55.5         31        102 10-
NOV-98
        64 Horataio                            7         35         64        102 08-
SEP-98
        64 Horataio                            7         35         64        101 05-
SEP-98
        74 Horataio                            9         35         74        103 08-
SEP-98

10 rows selected.

SQL> SELECT * FROM SAILORS;

       SID SNAME                          RATING         AGE
---------- ---------------------------------------- ---------- ----------
        22 Dustin                              7         45
        29 Brutus                              1         33
        31 Lubber                              8       55.5
        32 Andy                                8       25.5
        58 Rusty                              10         35
        64 Horataio                            7         35
        71 Zorba                              10         16
        74 Horataio                            9         35
        85 Art                                 3       25.5
        95 Bob                                 3       63.5

10 rows selected.

SQL> SELECT *
  2  FROM SAILORS S LEFT OUTER JOIN RESERVES R
  3  ON S.SID = R.SID;

       SID SNAME                          RATING         AGE         SID         BID DAY
---------- ---------------------------------------- ---------- ---------- ---------- ---------
        22 Dustin                              7         45         22        101 10-
OCT-98
```

```
        22 Dustin                    7         45         22         102 10-
OCT-98
        22 Dustin                    7         45         22         103 08-
OCT-98
        22 Dustin                    7         45         22         104 07-
OCT-98
        31 Lubber                    8       55.5         31         102 10-
NOV-98
        31 Lubber                    8       55.5         31         103 06-
NOV-98
        31 Lubber                    8       55.5         31         104 12-
NOV-98
        64 Horataio                  7         35         64         101 05-
SEP-98
        64 Horataio                  7         35         64         102 08-
SEP-98
        74 Horataio                  9         35         74         103 08-
SEP-98
        71 Zorba                    10         16

       SID SNAME                 RATING        AGE        SID        BID DAY
---------- ---------------------------------------- ---------- ---------- ---------- ---------- ------
---------

        85 Art                       3       25.5
        58 Rusty                    10         35
        32 Andy                      8       25.5
        29 Brutus                    1         33
        95 Bob                       3       63.5

16 rows selected.


SQL> SELECT COALESCE(COUNT(UNIQUE(BID)), 0)"BOAT-COUNT"
  2  FROM SAILORS S LEFT OUTER JOIN RESERVES R
  3  ON S.SID = R.SID
  4  GROUP BY S.SID;

BOAT-COUNT
----------
         4
         0
         0
         3
         0
         0
         1
         0
         2
         0

10 rows selected.
```

--QUERY

--21. Count the number of boats reserved by each sailor(display sailors name and count)

```
SQL> SELECT COALESCE(COUNT(UNIQUE(BID)), 0)"BOAT-COUNT", S.SID
  2  FROM SAILORS S LEFT OUTER JOIN RESERVES R
  3  ON S.SID = R.SID
  4  GROUP BY S.SID;

BOAT-COUNT        SID
---------- ----------
         4         22
         0         29
         0         95
         3         31
         0         32
         0         85
         1         74
         0         71
         2         64
         0         58

10 rows selected.
```

--QUERY

--22. Find the names of the sailors who reserved two or more boats.

```
SQL> SELECT COALESCE(COUNT(UNIQUE(BID)), 0)"BOAT-COUNT", S.SID
  2  FROM SAILORS S LEFT OUTER JOIN RESERVES R
  3  ON S.SID = R.SID
  4  GROUP BY S.SID
  5  HAVING COALESCE(COUNT(UNIQUE(BID)), 0) >= 2;

BOAT-COUNT        SID
---------- ----------
         4         22
         3         31
         2         64
```

--QUERY

--23.Find sailors whose rating is greater than that of some sailor called Horatio

```
SQL> SELECT *
  2  FROM SAILORS
  3  WHERE RATING > (SELECT MIN(RATING) FROM SAILORS WHERE SNAME = 'Horataio');

       SID SNAME                          RATING        AGE
---------- ------------------------------ ---------- ----------
        31 Lubber                                 8       55.5
        32 Andy                                   8       25.5
        58 Rusty                                 10         35
        71 Zorba                                 10         16
        74 Horataio                               9         35
```

--QUERY

--24. Find sailors whose rating is better than every sailor called Horatio.

```
SQL> SELECT *
  2  FROM SAILORS
  3  WHERE RATING > (SELECT Max(RATING) FROM SAILORS WHERE SNAME = 'Horataio');

       SID SNAME                          RATING        AGE
---------- ---------------------------------------- ---------- ----------

        58 Rusty                              10         35
        71 Zorba                              10         16
```

--QUERY

--25. Find the sailors with the highest rating.

```
SQL> SELECT *
  2  FROM SAILORS
  3  WHERE RATING >= (SELECT Max(RATING) FROM SAILORS);

       SID SNAME                          RATING        AGE
---------- ---------------------------------------- ---------- ----------
        58 Rusty                              10         35
        71 Zorba                              10         16

SQL> SELECT R.BID, COUNT(*)"RESERVE-CNT"
  2  FROM RESERVES R
  3  GROUP BY R.BID
  4  WHERE R.BID IN (SELECT BID IN BOATS WHERE COLOR = 'Red');
WHERE R.BID IN (SELECT BID IN BOATS WHERE COLOR = 'Red')
*
ERROR at line 4:
ORA-00933: SQL command not properly ended


SQL> SELECT BID FROM BOATS WHERE COLOR = 'Red';

no rows selected

SQL> SELECT * FROM BOATS;

       BID BNAME                          COLOR
---------- ---------------------------------------- ----------
       101 Interlake                      blue
       102 Interlake                      red
       103 Clipper                        green
       104 Marine                         red
```

--QUERY

--26. For each red boat, find its bid, and the number of reservations

```
SQL> SELECT R.BID, COUNT(*)"RESERVE-CNT"
  2  FROM RESERVES R
  3  WHERE R.BID IN (SELECT BID FROM BOATS WHERE COLOR = 'red')
  4  GROUP BY R.BID;

       BID RESERVE-CNT
---------- ----------
       102          3
       104          2
```

```
SQL> SELECT AGE, AVG(AGE)"AVG-AGE", COUNT(RATING)"COUNT"
  2  FROM SAILORS
  3  GROUP BY RATING
  4  HAVING COUNT(RATING) >= 2;
SELECT AGE, AVG(AGE)"AVG-AGE", COUNT(RATING)"COUNT"
       *
ERROR at line 1:
ORA-00979: not a GROUP BY expression
```

--QUERY

--27. Find the average age of sailors for each rating level that has at least two sailors.

```
SQL> SELECT RATING, AVG(AGE)"AVG-AGE", COUNT(RATING)"COUNT"
  2  FROM SAILORS
  3  GROUP BY RATING
  4  HAVING COUNT(RATING) >= 2;

    RATING    AVG-AGE      COUNT
---------- ---------- ----------
         8       40.5          2
         7         40          2
         3       44.5          2
        10       25.5          2


SQL> SELECT RATING, AVG(AGE)"AVG-AGE", COUNT(RATING)"COUNT"
  2  FROM SAILORS
  3  GROUP BY RATING
  4  HAVING COUNT(RATING) >= 2
  5  ORDER BY RATING;

    RATING    AVG-AGE      COUNT
---------- ---------- ----------
         3       44.5          2
         7         40          2
         8       40.5          2
        10       25.5          2

        10       25.5          2

6 rows selected.
```