

```
SQL Plus
```

```
SQL> create table sailors(sid number(2) constraint a1 primary key,sname varchar2(10),rating number(2),age number(2));
```

Table created.

```
SQL> desc sailors;
```

Name	Null?	Type
SID	NOT NULL	NUMBER(2)
SNAME		VARCHAR2(10)
RATING		NUMBER(2)
AGE		NUMBER(2)

```
SQL> create table boats(bid number(3) constraint b1 primary key,bname varchar2(10),color varchar2(5));
```

Table created.

```
SQL> desc boats;
```

Name	Null?	Type
BID	NOT NULL	NUMBER(3)
BNAME		VARCHAR2(10)
COLOR		VARCHAR2(5)

```
SQL> select * from boats;
```

BID	BNAME	COLOR
101	Interlake	Blue
102	Interlake	Red
103	Clipper	Green
104	Marine	Red

```
SQL> create table reserves(sid number(2),bid number(3),day date,constraint d1 primary key(sid,bid),constraint d2 foreign key(sid) references sailors
(sid),constraint d3 foreign key(bid) references boats(bid));
```

Table created.

```
SQL> desc reserves;
```

Name	Null?	Type
SID	NOT NULL	NUMBER(2)
BID	NOT NULL	NUMBER(3)
DAY		DATE

```
SQL> commit;
```

Commit complete.

```
SQL> select * from reserves;
```

SID	BID	DAY
22	101	10-OCT-98
22	102	10-OCT-98
22	103	10-AUG-98
22	104	10-JUL-98
31	102	11-OCT-98
31	103	11-JUN-98
31	104	11-DEC-98
64	101	09-MAY-98
64	102	09-AUG-98
74	103	09-AUG-98

```
10 rows selected.
```

1. Find names and ages of all sailors

```
SQL> select sname,age from sailors;
```

SNAME	AGE
Dustin	45
Brutus	33
Lubber	55.5
Andy	25.5
Rusty	35
Horatio	35
Zorba	16
Horatio	36
Art	25.5
Bob	63.5

```
10 rows selected.
```

2. Find all sailors with rating above 7

```
SQL> select * from sailors where rating>7;
```

SID	SNAME	RATING	AGE
31	Lubber	8	55.5
32	Andy	8	25.5
58	Rusty	10	35
71	Zorba	10	16
74	Horatio	9	36

3. Find the name of sailors who have reserved boat number 103

```
SQL> select sname from sailors where sid in(select sid from reserves where bid=103);
```

SNAME
Dustin
Lubber
Horatio

4. Find the sid of sailors who have reserved a red colour boat

```
SQL> select sid from reserves where bid in(select bid from boats where color='Red');
```

SID
22
22
31
31
64

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

```
SQL> select sname from sailors where sid in(select sid from reserves where bid in(select bid from boats where color='Red'));
```

SNAME
Dustin
Lubber
Horatio

6. Find the colours of boats reserved by Lubber

```
SQL> select color from boats where bid in(select bid from reserves where sid in(select sid from sailors where sname='Lubber'));  
COLOR  
-----  
Red  
Green  
Red
```

7. Find the names of sailors who have reserved at least one boat

```
SQL> select sname from sailors where sid in(select distinct sid from reserves);  
SNAME  
-----  
Dustin  
Lubber  
Horatio  
Horatio
```

8. Find the ages of sailors where name begins and ends with B and at least 3 characters

```
SQL> select age from sailors where sname like 'B_%b';  
AGE  
-----  
63.5
```

9. Find the bid of boat which was reserved by sailors whose name contains 4 characters length and 4th character is y

```
SQL> select bid from reserves where sid in(select sid from sailors where sname like '___y');  
no rows selected
```

10. Find the names of sailors who reserved a red or green boat

```
SQL> select sname from sailors where sid in(select sid from reserves where bid in(select bid from boats where color='Red' or color='Green'));  
SNAME  
-----  
Dustin  
Lubber  
Horatio  
Horatio
```

11. Find the names of sailors who reserved a red and green boat

```
SQL> select sname from sailors where sid in(select sid from reserves where bid in(select bid from boats where color='Red' and color='Green'));  
no rows selected
```

12. find SID's of sailors who have a rating of 10 or reserved a boat 104

```
SQL> select sid from sailors where rating=10 union select sid from reserves where bid=104;  
SID  
-----  
22  
31  
58  
71
```

13. Find the sailors with highest rating

```
SQL> select * from sailors where rating in(select max(rating) from sailors);  
SID SNAME      RATING  AGE  
-----  
58 Rusty       10      35  
71 Zorba       10      16
```

14. Find the average age of all sailors

```
SQL> select avg(age) from sailors;

AVG(AGE)
-----
      37
```

15. Find the average age of sailors with rating 10

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

AVG(AGE)
-----
     25.5
```

16. Find the name and age of oldest sailor

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

SNAME      AGE
-----
Bob         63.5
```

17. Count the number of sailors

```
SQL> select count(*) from sailors;

COUNT(*)
-----
      10
```

18. Count the number of different sailor's name

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

COUNT(DISTINCTSNAME)
-----
          9
```

19. Find the sid's of all sailors who have reserved a red boat but not green boat

```
SQL> select sid from reserves where bid in(select bid from boats where color='Red') minus (select bid from boats where color='Green');

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

20. Find the age of youngest sailor for each rating level

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

RATING  MIN(AGE)
-----
      1         33
      8        25.5
      7         35
      3        25.5
     10         16
      9         36

6 rows selected.
```

21. Find the sailors whose rating is better than some sailor called Horatio

```
SQL> select s1.sname from sailors s1 where s1.rating>any(select s2.rating from sailors s2 where s2.sname='Horatio');

SNAME
-----
Rusty
Zorba
Horatio
Lubber
Andy
```

22.Display sailors names and ages whose rating is better than sailors named Horatio

```
SQL> select s1.sname,s1.age from sailors s1 where s1.rating>all(select s2.rating from sailors s2 where s2.sname='Horatio');

SNAME      AGE
-----
Zorba      16
Rusty      35
```

23.Find the names of sailors who have reserved a boat no-103

```
SQL> select s.sname from sailors s where exists(select * from sailors s1,reserves r where r.sid=s1.sid and r.bid=103);

SNAME
-----
Dustin
Brutus
Lubber
Andy
Rusty
Horatio
Zorba
Horatio
Art
Bob

10 rows selected.
```

24.Find the names of sailors who have not reserved red boat

```
SQL> select s.sname from sailors s where not exists(select * from sailors s1,boats b, reserves r where b.bid=r.bid and s1.sid=r.sid and b.color='Red
');

no rows selected
```

25.Find the sailors with highest rating

```
SQL> select s.sname from sailors s where s.rating>all(select s2.rating from sailors s2);

no rows selected
```

26.Compute the increament for rating of persons who have sailed 2 boats on same day

```
SQL> select s1.rating+1 as rating from sailors s1,reserves r,reserves r1 where r.sid=s1.sid and r.bid<>r1.bid and r.day=r1.day;

RATING
-----
8
8
10
8
```

27. Find the age of youngest sailor who is eligible to vote for each rating level with atleast 2 such sailors

```
SQL> select s.rating,min(s.age) from sailors s where s.age>18 group by s.rating having count(*)>1;
```

RATING	MIN(S.AGE)
8	25.5
3	25.5
9	35

28. For each red boat find the number of reservations

```
SQL> select r.bid,count(*) from reserves r,boats b where r.bid=b.bid and b.color='red' group by r.bid;
```

BID	COUNT(*)
102	3
104	2

29. Find the average age of sailors for each rating level that has atleast 2 sailors

```
SQL> select s.rating,avg(s.age) from sailors s group by s.rating having count(*)>1;
```

RATING	AVG(S.AGE)
8	40.5
3	44.5
10	25.5
9	35

30. Find the rating for which average age of sailors is minimum of overall rating

```
SQL> select rating from sailors where age=(select min(avg(age)) from sailors group by rating);
```

RATING
8
3