

```
SQL> select * from student1;
```

ID	NAME	ADDRESS	AGE
1	manas	mumbai	18
2	sunil	mumbai	19
3	harsh	nanded	10
4	deep	nanded	11
5	anil	mumbai	19
6	rohit	mumbai	22
7	imkar	mumbai	28
8	vikrant	mumbai	88

8 rows selected.

```
SQL> create table course1(courseid int,id int);
```

Table created.

```
SQL> insert all
  2 into course1 values(1,1)
  3 into course1 values(2,2)
  4 into course1 values(2,3)
  5 into course1 values(3,4)
  6 into course1 values(1,5)
  7 into course1 values(1,9)
  8 into course1 values(1,10)
  9 into course1 values(1,11)
10 select * from dual;
```

8 rows created.

```
SQL> select * from course1;
```

COURSEID	ID
----------	----

```

-----
      1      1
      2      2
      2      3
      3      4
      1      5
      1      9
      1     10
      1     11

```

8 rows selected.

```

SQL> select name from
      2  student1,course1;

```

NAME

```

-----
manas
manas
manas
manas
manas
manas
manas
manas
sunil

```

sunil

sunil

sunil

sunil

sunil

sunil

sunil

harsh

harsh

harsh

harsh

harsh

harsh

harsh

harsh

deep

deep

deep

deep

deep

deep

deep

deep

anil

anil

anil

anil

anil

anil

anil

anil

rohit

rohit

rohit

rohit

rohit

rohit

rohit

rohit

imkar

imkar

imkar

imkar

imkar

imkar

imkar

imkar
vikrant
vikrant
vikrant
vikrant
vikrant
vikrant
vikrant
vikrant

64 rows selected.

```
SQL> select name from
      2  student1,course1
      3  where student1.id=course1.id;
```

NAME

manas
sunil
harsh
deep
anil

```
SQL> select name,student1.id,address from
      2  student1,course1
      3  where student1.id=course1.id;
```

NAME	ID	ADDRESS
------	----	---------

manas	1 mumbai
sunil	2 mumbai
harsh	3 nanded
deep	4 nanded
anil	5 mumbai

```
SQL> select name from
      2 student1 inner join course1
      3 on(student1.id=course1.id);
```

NAME

manas

sunil

harsh

deep

anil

```
SQL> select name from
      2 student1 inner join course1
      3 using (id);
```

NAME

manas

sunil

harsh

deep

anil

```
SQL> select name from
      2  student1 left join course1
      3  using (id);
```

NAME

manas

sunil

harsh

deep

anil

vikrant

rohit

imkar

8 rows selected.

```
SQL> select name from
      2  student1 right join course1
      3  using (id);
```

NAME

manas

sunil

harsh

deep

anil

8 rows selected.

```
SQL> select name from
      2 student1 full outer join course1
      3 using (id);
```

NAME

manas

sunil

harsh

deep

anil

vikrant

rohit

imkar

11 rows selected.


```
SQL> select * from
  2 student1 full outer join course1
  3 using (id);
```

ID	NAME	ADDRESS	AGE	COURSEID
1	manas	mumbai	18	1
2	sunil	mumbai	19	2
3	harsh	nanded	10	2
4	deep	nanded	11	3
5	anil	mumbai	19	1
9				1
10				1
11				1
8	vikrant	mumbai	88	
6	rohit	mumbai	22	
7	imkar	mumbai	28	

11 rows selected.

```
SQL> select * from student1, course1
  2 where student1.id=course1.id(+);
```

ID	NAME	ADDRESS	AGE	COURSEID	ID
1	manas	mumbai	18	1	1
2	sunil	mumbai	19	2	2
3	harsh	nanded	10	2	3

4	deep	nanded	11	3	4
5	anil	mumbai	19	1	5
8	vikrant	mumbai	88		
6	rohit	mumbai	22		
7	imkar	mumbai	28		

8 rows selected.

```
SQL> select * from student1,course1
2  where student1.id(+)=course1.id;
```

ID	NAME	ADDRESS	AGE	COURSEID	ID
1	manas	mumbai	18	1	1
2	sunil	mumbai	19	2	2
3	harsh	nanded	10	2	3
4	deep	nanded	11	3	4
5	anil	mumbai	19	1	5
				1	10
				1	11
				1	9

8 rows selected.

```
SQL> select * from student1,course1
2  where student1.id(+)=course1.id(+);
where student1.id(+)=course1.id(+)
*
```

ERROR at line 2:

ORA-01468: a predicate may reference only one outer-joined table

```
SQL> select * from student1,course1
      2  where student1.id(+)=course1.id and student1.id=course1.id(+);
where student1.id(+)=course1.id and student1.id=course1.id(+)
```

```
ERROR at line 2:
ORA-01416: two tables cannot be outer-joined to each other
```

```
SQL> select * from t2;
```

ROLL_NO	NAME	EMAIL	BALANCE
1	manas	m@1	80000
2	tushar	t@1	2000
3	yash	y@1	3000
4	harshad	h@1	5000
5	jay	j@1	5000
12	omkar	o@1	6000
14	aniket	a@1	7000
16	vivek	v@1	8000
17	sam	s@2	9000
18	arthur	a@2	1100
31	vaibhav	v@5	1300
41	abhishek	a@6	1400
51	vikrant	v@7	1500
61	akshay	a@8	1060
71	kapil	k@9	1070
67	dev	d@78	1080

45	suraj	s@89	1900
56	ram	r@45	1009
87	shyam	s@34	1034
38	ravan	r@34	1023
99	krishna	k@43	1460
567	manas	m@256	80000
235	tushar	t@435	2000
456	yash	y@1845	3000
235	harshad	h@132	5000
56	varun	vv@g	4000
588	siddharth	ss@g	1000
67	kaju	r@k	675

28 rows selected.

```
SQL> select * from t2
2 where balance>(select avg(balance) from t2);
```

ROLL_NO	NAME	EMAIL	BALANCE
-----	-----	-----	-----
1	manas	m@1	80000
17	sam	s@2	9000
567	manas	m@256	80000

```
SQL> select * from t2
2 where balance=(select min(balance) from t2);
```

ROLL_NO	NAME	EMAIL	BALANCE
---------	------	-------	---------

```
-----  
588 siddharth ss@g 1000
```

```
SQL> select * from t2  
2 where balance in (select balance from t2);
```

```
ROLL_NO NAME EMAIL BALANCE
```

```
-----  
567 manas m@256 80000
```

```
1 manas m@1 80000
```

```
235 tushar t@435 2000
```

```
2 tushar t@1 2000
```

```
456 yash y@1845 3000
```

```
3 yash y@1 3000
```

```
235 harshad h@132 5000
```

```
5 jay j@1 5000
```

```
4 harshad h@1 5000
```

```
12 omkar o@1 6000
```

```
14 aniket a@1 7000
```

```
16 vivek v@1 8000
```

```
17 sam s@2 9000
```

```
18 arthur a@2 1100
```

```
31 vaibhav v@5 1300
```

```
41 abhishek a@6 1400
```

```
51 vikrant v@7 1500
```

61	akshay	a@8	1060
71	kapil	k@9	1070
67	dev	d@78	1080
45	suraj	s@89	1900
56	ram	r@45	1009
87	shyam	s@34	1034
38	ravan	r@34	1023
99	krishna	k@43	1460
56	varun	vv@g	4000
588	siddharth	ss@g	1000
67	kaju	r@k	675

28 rows selected.

```
SQL> select * from t2
2 where name in (select name from t2 where roll_no>10 );
```

ROLL_NO	NAME	EMAIL	BALANCE
12	omkar	o@1	6000
14	aniket	a@1	7000
16	vivek	v@1	8000
17	sam	s@2	9000
18	arthur	a@2	1100
31	vaibhav	v@5	1300
41	abhishek	a@6	1400

51	vikrant	v@7	1500
61	akshay	a@8	1060
71	kapil	k@9	1070
67	dev	d@78	1080
45	suraj	s@89	1900
56	ram	r@45	1009
87	shyam	s@34	1034
38	ravan	r@34	1023
99	krishna	k@43	1460
567	manas	m@256	80000
1	manas	m@1	80000
235	tushar	t@435	2000
2	tushar	t@1	2000
456	yash	y@1845	3000
3	yash	y@1	3000
235	harshad	h@132	5000
4	harshad	h@1	5000
56	varun	vv@g	4000
588	siddharth	ss@g	1000
67	kaju	r@k	675

27 rows selected.

SQL> spool off;