DBMS LAB ASSIGNMENT-5

S Venkata Ramana

19bcs096 T12

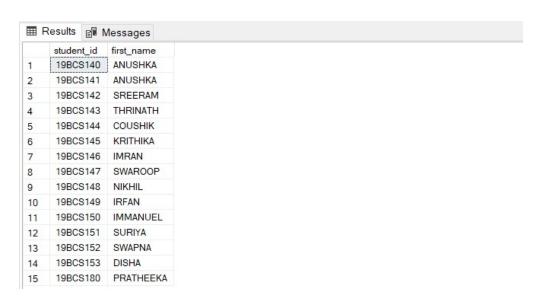
1.Illustrate logical ANY, ALL and LIKE operator- the queries should be relevant to your respective databases 3 queries for each operator. One query explaining the difference between ANY and ALL.

\rightarrow ANY:

Queries:

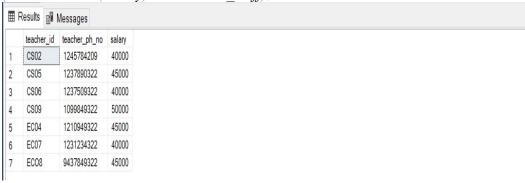
1)

SELECT S.student_id,s.first_name FROM T12_studentinfo s WHERE S.student_id > ANY (SELECT S2.student_id FROM T12_studentinfo S2 WHERE S2.DOB='2001-10-08')



2)

SELECT teacher_id,teacher_ph_no,salary FROM T12_staff WHERE salary >= ANY (SELECT AVG(salary) FROM T12_staff);



3)
select student_id,parent_mobile_no from T12_parentinfo where student_id =
ANY (select student_id from T12_grades where course_id <>
ANY (select course id from T12 course staff where grade='C'));

	student_id	parent_mobile_no
1	19BCS123	8899007766
2	19BCS133	8899007756
3	19BCS138	9086235637
4	19BCS140	9005678449
5	19BCS141	8899007235
6	19BCS142	8899007396
7	19BCS144	8899333766

\rightarrow ALL:

Queries:

1)

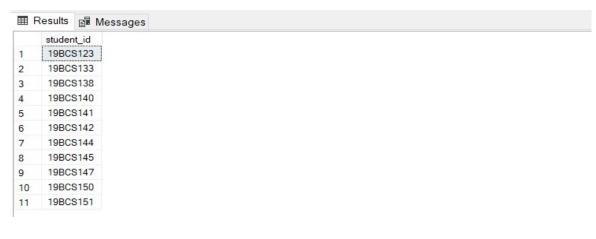
select course_id, student_id from T12_courses where course_id = ALL (select course_id from T12_course_staff where grade= $\frac{'B'}{}$);

Ⅲ F	Results 📳	Messages
	course_id	student_id
1	CS210	19BCS123
2	CS210	19BCS130
3	CS210	19BCS132
4	CS210	19BCS134
5	CS210	19BCS135
6	CS210	19BCS139
7	CS210	19BCS140
8	CS210	19BCS142
9	CS210	19BCS143
10	CS210	19BCS144
11	CS210	19BCS145
12	CS210	19BCS149

2)
SELECT * FROM T12_staff
WHERE salary <= ALL (SELECT salary FROM T12_staff
WHERE teacher id = ANY (select teacher id from T12 staff))



3)
select distinct student_id from T12_courses
where course id<>All(select course id from T12 course staff where marks<'60')



→LIKE:

Queries:

1)

select * from T12_studentinfo where DOB like '%03___';

	student_id	first_name	last_name	email_id	ph_no	study_year	DOB	age
1	19BCS123	ANUPAMA	MUNAGAPATI	19bcs123@iiitdwd.ac.in	1234568907	2	2002-03-21	19
2	19BCS133	AKSHAY	KHANNA	19bcs133@iiitdwd.ac.in	9887604321	2	2001-03-03	20
3	19BCS138	SHYAM	MUNGALA	19bcs138@iiitdwd.ac.in	8923556123	2	2002-03-20	19
4	19BCS180	PRATHEEKA	SINGH	19bcs180@iiitdwd.ac.in	9024538589	3	2002-03-21	19

2) select * from T12_parentinfo where [address] like 't[ea]%';

	parent_name	parent_mobile_no	address	student_id
1	RAGHUNATH	8899007710	TELANGANA	19BCS135
2	JAI	9086235637	TELANGANA	19BCS138
3	RAAVAN	2509875466	TELANGANA	19BCS147
4	RAMANUJAN	8891107766	TELANGANA	19BCS148
5	LALITH KUMAR	8899010366	TELANGANA	19BCS151
6	KALYANI	9103748310	TAMIL NADU	19BCS190

3) select * from T12_staff where teacher_ph_no like '9[^6-9][0-8]%'; /* results the tuples where phn numbers starting with 9, not followed by 6-9 digits and followed by 0-8 digits, and last 7 digits can be any one in 0-9*/

Ħ	Results 🗐	Messages			
	teacher_id	teacher_name	salary	teacher_email_id	teacher_ph_no
1	CS03	BHUVAN RAJ	35000	bhuvan@iiitdwd.ac.in	9065438892
2	ECO8	PRAKASH SINGH	45000	prakash@iiitdwd.ac.in	9437849322

```
Difference between 'ALL' and 'ANY':
Query:
select distinct course id from T12 course staff where grade='B-'/*sub query*/
select distinct course id, student id from T12 courses
where course id <> ALL (select distinct course id from T12 course staff where grade='B-
');
select course id, student id from T12 courses
where course id <> ANY (select distinct course id from T12 course staff where grade='B-
');
 ■ Results ■ Messages
      course_id
     CS210
      CS211
 Results Messages
     course_id student_id
           19BCS123
    CS201
 2
     CS201
             19BCS133
    CS201
            19BCS138
    CS201
           19BCS140
   CS201
            19BCS141
     CS201
             19BCS142
     CS201
             19BCS147
 course_id student_id
    CS201 19BCS123
    CS210
             19BCS123
             19BCS123
 3
     CS210
             19BCS130
     CS210
             19BCS132
     CS201
             19BCS133
    CS210
             19BCS134
             19BCS135
     CS201
             19BCS138
 10 CS210
             19BCS139
     CS201
             19BCS140
    CS210
             19BCS140
             19BCS141
 13
    CS201
             19BCS142
 14
 15
     CS210
             19BCS142
 16
     CS210
             19BCS143
     CS210
             19BCS144
             19BCS144
 18
     CS211
     CS210
             19BCS145
 19
 20
     CS211
             19BCS145
 21
     CS201
             19BCS147
     CS210
             19BCS149
             19BCS150
 23
     CS211
           19BCS151
    CS211
```

2) One query for each Aggregate function.

Queries:

select count(student id) as Total students, age from T12 studentinfo group by age;



select avg(marks) as avg marks, student id from T12 grades group by student id;



select var(salary) as Income variance from T12 staff;



select varp(salary) as Income variance for Population from T12 staff;



select stdev(age) as age_deviation from T12_studentinfo;



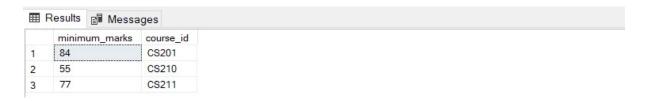
select stdevp(age) as age_deviation_for_population from T12_studentinfo;



select sum(fee paid) as total fee received from T12 parentinfo;



select min(marks) as minimum marks, course id from T12 grades group by course id;



select max(s.salary) as max_staff_salary,c.course_id from T12_staff s,T12_course_staff c where c.teacher id=s.teacher id group by c.course id;



select count big(teacher id) as bigint no staff from T12 staff;



3) →ORDER BY:

Queries:

1)

select * from T12 studentinfo order by student id desc;

	student_id	first_name	last_name	email_id	ph_no	study_year	DOB	age
1	19BCS190	THRINAYAN	VISWAH	19bcs190@iiitdwd.ac.in	5638291043	2	2001-07-24	20
2	19BCS180	PRATHEEKA	SINGH	19bcs180@iiitdwd.ac.in	9024538589	3	2002-03-21	19
3	19BCS153	DISHA	TARA	19bcs153@iiitdwd.ac.in	8899225078	2	2002-10-10	19
4	19BCS152	SWAPNA	RAJ	19bcs152@iiitdwd.ac.in	8992458870	2	2001-09-07	20
5	19BCS151	SURIYA	KHILLADI	19bcs151@iiitdwd.ac.in	9075428944	2	2002-07-25	19
6	19BCS150	IMMANUEL	ST	19bcs150@iiitdwd.ac.in	8859034218	2	2001-07-27	20
7	19BCS149	IRFAN	SHIEK	19bcs149@iiitdwd.ac.in	7789054678	2	2002-12-04	19
8	19BCS148	NIKHIL	KUMAR	19bcs148@iiitdwd.ac.in	9778054398	2	2001-11-12	20
9	19BCS147	SWAROOP	GHATTAMANENI	19bcs147@iiitdwd.ac.in	9008796654	2	2001-02-23	20
10	19BCS146	IMRAN	KHAN	19bcs146@iiitdwd.ac.in	7906695449	2	2001-12-20	20
11	19BCS145	KRITHIKA	KUMAR	19bcs145@iiitdwd.ac.in	9079054670	2	2002-10-27	19
12	19BCS144	COUSHIK	SAI	19bcs144@iiitdwd.ac.in	9440996234	2	2001-09-19	20
13	19BCS143	THRINATH	KUMAR	19bcs143@iiitdwd.ac.in	8076995430	2	2001-04-18	20
14	19BCS142	SREERAM	KESHVA	19bcs142@iiitdwd.ac.in	9507763210	2	2001-11-08	20
15	19BCS141	ANUSHKA	SHETTY	19bcs141@iiitdwd.ac.in	9887065432	2	2002-10-06	19
16	19BCS140	ANUSHKA	SHARMA	19bcs140@iiitdwd.ac.in	9665894362	2	2001-10-08	20
17	19BCS139	KRITHI	SHETTY	19bcs139@iiitdwd.ac.in	9077654892	2	2001-10-08	20
18	19BCS138	SHYAM	MUNGALA	19bcs138@iiitdwd.ac.in	8923556123	2	2002-03-20	19
19	19BCS137	KARTHIK	KUMAR	19bcs137@iiitdwd.ac.in	8076654987	2	2002-05-19	19
20	19BCS136	RANI	MUKHERJEE	19bcs136@iiitdwd.ac.in	9776055943	2	2001-08-17	20
21	19BCS135	SHILPA	SHETTY	19bcs135@iiitdwd.ac.in	9908766548	2	2002-06-16	19
22	19BCS134	SHAHRUKH	KHAN	19bcs134@iiitdwd.ac.in	9054321998	2	2002-11-01	19
23	19BCS133	AKSHAY	KHANNA	19bcs133@iiitdwd.ac.in	9887604321	2	2001-03-03	20
24	19BCS132	JOHN	ST	19bcs132@iiitdwd.ac.in	9987654033	2	2002-06-16	19

2)
select * from T12_parentinfo order by parent_name asc,parent_mobile_no desc;

pa	rent_name	parent_mobile_no	address	student_id	fee_paid
1 AE	HIRAM	9870932235	AP	19BCS137	40000
2 AL	I	8899080766	KOLKATA	19BCS146	40000
3 AF	RJITH	8892207766	MUMBAI	19BCS149	40000
4 G(DVINDH	8899000751	AP	19BCS145	40000
5 JA	I	9086235637	TELANGANA	19BCS138	40000
6 JE	NNIFER	8811117766	AP	19BCS150	40000
7 JY	OTHI MOHAN	9950453218	CHENNAI	19BCS152	40000
8 KA	LYANI	9103748310	TAMIL NADU	19BCS190	40000
9 KA	RTHIK RAM	8899007235	AP	19BCS141	40000
10 KA	RTHIKEYA	8796530021	GUJARAT	19BCS153	40000
11 LA	LITH KUMAR	8899010366	TELANGANA	19BCS151	40000
12 PA	UL	8899007763	AP	19BCS132	40000
13 R/	AAVAN	2509875466	TELANGANA	19BCS147	40000
14 R/	AGHUNATH	8899007710	TELANGANA	19BCS135	40000
15 R/	J GOPAL	9005678449	KOLKATA	19BCS140	40000
16 R/	J KUMAR	8899333766	AP	19BCS144	40000
17 R/	KESH	8899007762	MUMBAI	19BCS131	40000
18 R	MA	8899007758	KOLKATA	19BCS136	40000
19 R/	MANUJAN	8891107766	TELANGANA	19BCS148	40000
20 R/	MESH	8899007756	MUMBAI	19BCS133	40000
21 R/	NGNATH	8899007396	CHENNAI	19BCS142	40000
22 SA	MEER	5690231667	CHENNAI	19BCS139	40000
23 SH	HAHEEDH	8899007761	GUJARAT	19BCS130	40000
24 SF	RIRAM	8899348866	AP	19BCS143	40000
25 TA	J MOHHAMMED	8898007766	DELHI	19BCS134	40000
26 VE	NKATESWARLU	8899007766	AP	19BCS123	40000

→GROUP BY:

Queries:

1)

select max(marks) as maximum marks, course id from T12 course staff group by course id;



2)

SELECT distinct COUNT(teacher_id) as No_of_teachers, course_id FROM T12_course_staff GROUP BY course_id ORDER BY COUNT(teacher_id) DESC;

■ F	Results 🗐 Mess	ages
	No_of_teachers	course_id
1	10	CS210
2	5	CS201
3	2	CS211

→HAVING CLAUSE:

Queries:

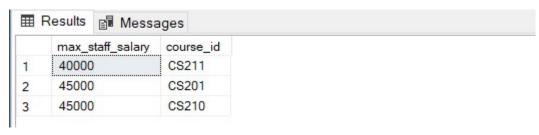
1)

select min(marks) as min_marks,course_id from T12_grades group by course_id having min(marks)>60;



2)

select max(s.salary) as max_staff_salary,c.course_id from T12_staff s,T12_course_staff c where c.teacher_id=s.teacher_id group by c.course_id having max(s.salary)>=40000 order by max(s.salary);



4) Use Aggregate function with group by and having.

select avg(g.marks) as max_marks,g.course_id from T12_grades g,T12_courses c where c.course id=g.course id group by g.course id having avg(marks)>80



5) Write at least 3 nested queries using order by, group by and having clause.

Queries:

1)
select avg(avg_salary) from (select avg(s.salary) as avg_salary,c.teacher_id from T12_staff
s,T12_course_staff c where c.teacher_id=s.teacher_id group by c.teacher_id having
avg(s.salary)>=35000) as institute avg_package



2)

select salary,teacher_id from T12_staff
where teacher_id =Any (select teacher_id from T12_course_staff
where course_id =any (select course_id from T12_grades
where grade like '[AB]%')) group by teacher id,salary order by salary desc



3)
select min(s.salary) as min_staff_salary,s.teacher_id from T12_staff s,T12_course_staff c
where c.teacher_id=s.teacher_id group by s.teacher_id
having min(s.salary) <= (select avg(s1.salary) from T12_staff s1);

III	Results Mess	ages
	min_staff_salary	teacher_id
1	35000	CS01
2	35000	CS03
3	35000	CS04
4	35000	CS10

6) Illustrate the Usage of Except, Exists, Not Exists, Union, Intersection.

\rightarrow EXCEPT:

SELECT * FROM T12_studentinfo where Age='19' **EXCEPT** SELECT * FROM T12_studentinfo where ph_no like '9%'

 	Results	By V	Messages						
	studen	ıt_id	first_name	last_name	email_id	ph_no	study_year	DOB	age
1	19BC	3123	ANUPAMA	MUNAGAPATI	19bcs123@iiitdwd.ac.in	1234568907	2	2002-03-21	19
2	19BCS	3130	SANJAY	KHAN	19bcs130@iiitdwd.ac.in	1245757843	2	2002-04-28	19
3	19BCS	S137	KARTHIK	KUMAR	19bcs137@iiitdwd.ac.in	8076654987	2	2002-05-19	19
4	19BCS	3138	SHYAM	MUNGALA	19bcs138@iiitdwd.ac.in	8923556123	2	2002-03-20	19
5	19BCS	3149	IRFAN	SHIEK	19bcs149@iiitdwd.ac.in	7789054678	2	2002-12-04	19
6	19BC	3153	DISHA	TARA	19bcs153@iiitdwd.ac.in	8899225078	2	2002-10-10	19

→EXISTS:

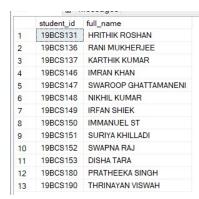
select * from T12 parentinfo p where exists (select * from T12 courses c where *c.student id=p.student id)*

	parent_name	parent_mobile_no	address	student_id	fee_paid
1	VENKATESWARLU	8899007766	AP	19BCS123	40000
2	SHAHEEDH	8899007761	GUJARAT	19BCS130	40000
3	PAUL	8899007763	AP	19BCS132	40000
4	RAMESH	8899007756	MUMBAI	19BCS133	40000
5	TAJ MOHHAMMED	8898007766	DELHI	19BCS134	40000
6	RAGHUNATH	8899007710	TELANGANA	19BCS135	40000
7	JAI	9086235637	TELANGANA	19BCS138	40000
8	SAMEER	5690231667	CHENNAI	19BCS139	40000
9	RAJ GOPAL	9005678449	KOLKATA	19BCS140	40000
10	KARTHIK RAM	8899007235	AP	19BCS141	40000
11	RANGNATH	8899007396	CHENNAI	19BCS142	40000
12	SRIRAM	8899348866	AP	19BCS143	40000
13	RAJ KUMAR	8899333766	AP	19BCS144	40000
14	GOVINDH	8899000751	AP	19BCS145	40000
15	RAAVAN	2509875466	TELANGANA	19BCS147	40000
16	ARJITH	8892207766	MUMBAI	19BCS149	40000
17	JENNIFER	8811117766	AP	19BCS150	40000
18	LALITH KUMAR	8899010366	TELANGANA	19BCS151	40000

→NOT EXISTS:

select distinct s1.student id,s1.first name+' '+s1.last name as full name from T12 studentinfo as s1

where not exists (select * from T12 grades as g where g.student id=s1.student id)



→UNION:

use school

(select course_id,student_id from T12_courses where course_id like 'cs21[10]' union

select course_id,student_id from T12_course_staff where course id like 'cs2[10]1') order by student id



→INTERSECT:

use school

(select distinct teacher_id from T12_course_staff intersect

select teacher id from T12 staff) order by teacher id desc



7) INNER JOIN, LEFT OUTER JOIN, RIGHT OUTER JOIN- 3 queries for each instance

Queries:

→INNER JOIN:

1)

select s.*,c.course_id
from T12 studentinfo s

inner join T12 courses c on s.student id=c.student id order by student id desc;

	student_id	first_name	last_name	email_id	ph_no	study_year	DOB	age	course_id
1	19BCS151	SURIYA	KHILLADI	19bcs151@iiitdwd.ac.in	9075428944	2	2002-07-25	19	CS211
2	19BCS150	IMMANUEL	ST	19bcs150@iiitdwd.ac.in	8859034218	2	2001-07-27	20	CS211
3	19BCS149	IRFAN	SHIEK	19bcs149@iiitdwd.ac.in	7789054678	2	2002-12-04	19	CS210
4	19BCS147	SWAROOP	GHATTAMANENI	19bcs147@iiitdwd.ac.in	9008796654	2	2001-02-23	20	CS201
5	19BCS145	KRITHIKA	KUMAR	19bcs145@iiitdwd.ac.in	9079054670	2	2002-10-27	19	CS211
6	19BCS145	KRITHIKA	KUMAR	19bcs145@iiitdwd.ac.in	9079054670	2	2002-10-27	19	CS210
7	19BCS144	COUSHIK	SAI	19bcs144@iiitdwd.ac.in	9440996234	2	2001-09-19	20	CS211
8	19BCS144	COUSHIK	SAI	19bcs144@iiitdwd.ac.in	9440996234	2	2001-09-19	20	CS210
9	19BCS143	THRINATH	KUMAR	19bcs143@iiitdwd.ac.in	8076995430	2	2001-04-18	20	CS210
10	19BCS142	SREERAM	KESHVA	19bcs142@iiitdwd.ac.in	9507763210	2	2001-11-08	20	CS210
11	19BCS142	SREERAM	KESHVA	19bcs142@iiitdwd.ac.in	9507763210	2	2001-11-08	20	CS201
12	19BCS141	ANUSHKA	SHETTY	19bcs141@iiitdwd.ac.in	9887065432	2	2002-10-06	19	CS201
13	19BCS140	ANUSHKA	SHARMA	19bcs140@iiitdwd.ac.in	9665894362	2	2001-10-08	20	CS210
14	19BCS140	ANUSHKA	SHARMA	19bcs140@iiitdwd.ac.in	9665894362	2	2001-10-08	20	CS201
15	19BCS139	KRITHI	SHETTY	19bcs139@iiitdwd.ac.in	9077654892	2	2001-10-08	20	CS210
16	19BCS138	SHYAM	MUNGALA	19bcs138@iiitdwd.ac.in	8923556123	2	2002-03-20	19	CS201
17	19BCS135	SHILPA	SHETTY	19bcs135@iiitdwd.ac.in	9908766548	2	2002-06-16	19	CS210
18	19BCS134	SHAHRUKH	KHAN	19bcs134@iiitdwd.ac.in	9054321998	2	2002-11-01	19	CS210
19	19BCS133	AKSHAY	KHANNA	19bcs133@iiitdwd.ac.in	9887604321	2	2001-03-03	20	CS201
20	19BCS132	JOHN	ST	19bcs132@iiitdwd.ac.in	9987654033	2	2002-06-16	19	CS210
21	19BCS130	SANJAY	KHAN	19bcs130@iiitdwd.ac.in	1245757843	2	2002-04-28	19	CS210
22	19BCS123	ANUPAMA	MUNAGAPATI	19bcs123@iiitdwd.ac.in	1234568907	2	2002-03-21	19	CS211
23	19BCS123	ANUPAMA	MUNAGAPATI	19bcs123@iiitdwd.ac.in	1234568907	2	2002-03-21	19	CS210
24	19BCS123	ANUPAMA	MUNAGAPATI	19bcs123@iiitdwd.ac.in	1234568907	2	2002-03-21	19	CS201

2)
select p.parent_name,p.parent_mobile_no,s.first_name+' '+s.last_name as
student_full_name,g.course_id,g.grade,g.marks
from ((T12_parentinfo p
inner join T12_studentinfo s ON p.student_id=s.student_id)
inner join T12_grades g ON p.student_id=g.student_id) order by g.marks desc;

	parent_name	parent_mobile_no	student_full_name	course_id	grade	marks
1	TAJ MOHHAMMED	8898007766	SHAHRUKH KHAN	CS210	A	93
2	RAJ GOPAL	9005678449	ANUSHKA SHARMA	CS210	Α	92
3	KARTHIK RAM	8899007235	ANUSHKA SHETTY	CS201	Α	91
4	VENKATESWARLU	8899007766	ANUPAMA MUNAGAPATI	CS210	Α	90
5	RAJ GOPAL	9005678449	ANUSHKA SHARMA	CS201	A-	89
6	VENKATESWARLU	8899007766	ANUPAMA MUNAGAPATI	CS211	Α-	89
7	SAMEER	5690231667	KRITHI SHETTY	CS210	Α-	88
8	RAMESH	8899007756	AKSHAY KHANNA	CS201	Α-	86
9	JAI	9086235637	SHYAM MUNGALA	CS201	Α-	85
10	RANGNATH	8899007396	SREERAM KESHVA	CS201	Α-	84
11	RAGHUNATH	8899007710	SHILPA SHETTY	CS210	B-	78
12	RAJ KUMAR	8899333766	COUSHIK SAI	CS211	B-	77
13	SHAHEEDH	8899007761	SANJAY KHAN	CS210	В	69
14	SRIRAM	8899348866	THRINATH KUMAR	CS210	В	67
15	GOVINDH	8899000751	KRITHIKA KUMAR	CS210	В	65
16	PAUL	8899007763	JOHN ST	CS210	С	59
17	RANGNATH	8899007396	SREERAM KESHVA	CS210	C	55

Paculte of Massacca

select p.student_id,p.parent_mobile_no,c.course_id,g.marks,c1.course_name from (((T12_parentinfo p inner join T12_course_staff c on p.student_id=c.student_id) inner join T12_grades g on p.student_id=g.student_id) inner join T12_courses c1 on p.student_id=c1.student_id)order by c1.course_name;

	student_id	parent_mobile_no	course_id	marks	course_name	
1	19BCS145	8899000751	CS210	65	DBMS	
2	19BCS123	8899007766	CS210	89	DBMS	
3	19BCS123	8899007766	CS210	90	DBMS	
4	19BCS123	8899007766	CS211	89	DBMS	
5	19BCS123	8899007766	CS211	90	DBMS	
6	19BCS144	8899333766	CS211	77	DBMS	
7	19BCS141	8899007235	CS201	91	MATHS	
8	19BCS142	8899007396	CS201	55	MATHS	
9	19BCS142	8899007396	CS201	84	MATHS	
10	19BCS142	8899007396	CS210	55	MATHS	
11	19BCS142	8899007396	CS210	84	MATHS	
12	19BCS133	8899007756	CS201	86	MATHS	
13	19BCS123	8899007766	CS210	89	MATHS	
14	19BCS123	8899007766	CS210	90	MATHS	
15	19BCS123	8899007766	CS211	89	MATHS	
16	19BCS123	8899007766	CS211	90	MATHS	
17	19BCS140	9005678449	CS201	89	MATHS	
18	19BCS140	9005678449	CS201	92	MATHS	
19	19BCS140	9005678449	CS210	89	MATHS	
20	19BCS140	9005678449	CS210	92	MATHS	
21	19BCS138	9086235637	CS201	85	MATHS	
22	19BCS139	5690231667	CS210	88	TOC	
23	19BCS134	8898007766	CS210	93	TOC	
24	19BCS145	8899000751	CS210	65	TOC	
25	19BCS142	8899007396	CS201	55	TOC	
26	19BCS142	8899007396	CS201	84	TOC	
27	19BCS142	8899007396	CS210	55	TOC	
28	19BCS142	8899007396	CS210	84	TOC	
29	19BCS135	8899007710	CS210	78	TOC	
30	19BCS130	8899007761	CS210	69	TOC	
31	19BCS132	8899007763	CS210	59	TOC	
32	19BCS123	8899007766	CS210	89	TOC	
33	19BCS123	8899007766	CS210	90	TOC	

→LEFT OUTER JOIN:

1)

select s.student_id,s.first_name+' '+s.last_name as student_fullname,s.ph_no,c.course_id from T12_studentinfo s

left outer join T12 courses c on s.student id=c.student id

order by student id desc;



2)
select p.student_id,p.parent_mobile_no,g.course_id,g.grade,g.marks
from ((T12_parentinfo p

left outer join T12_studentinfo s ON p.student_id=s.student_id)
left outer join T12_grades g ON p.student_id=g.student_id) order by s.student_id;

	student_id	parent_mobile_no	course_id	grade	marks
1	19BCS123	8899007766	CS210	A	90
2	19BCS123	8899007766	CS211	Α-	89
3	19BCS130	8899007761	CS210	В	69
4	19BCS131	8899007762	NULL	NULL	NULL
5	19BCS132	8899007763	CS210	С	59
6	19BCS133	8899007756	CS201	A-	86
7	19BCS134	8898007766	CS210	A	93
8	19BCS135	8899007710	CS210	B-	78
9	19BCS136	8899007758	NULL	NULL	NULL
10	19BCS137	9870932235	NULL	NULL	NULL
11	19BCS138	9086235637	CS201	A-	85
12	19BCS139	5690231667	CS210	Α-	88
13	19BCS140	9005678449	CS201	Α-	89
14	19BCS140	9005678449	CS210	A	92
15	19BCS141	8899007235	CS201	A	91
16	19BCS142	8899007396	CS201	A-	84
17	19BCS142	8899007396	CS210	С	55
18	19BCS143	8899348866	CS210	В	67
19	19BCS144	8899333766	CS211	B-	77
20	19BCS145	8899000751	CS210	В	65
21	19BCS146	8899080766	NULL	NULL	NULL
22	19BCS147	2509875466	NULL	NULL	NULL
23	19BCS148	8891107766	NULL	NULL	NULL
24	19BCS149	8892207766	NULL	NULL	NULL

3)

select p.student_id,p.parent_mobile_no,c.course_id,g.marks,cl.course_name from (((T12_parentinfo p left outer join T12_course_staff c on p.student_id=c.student_id) left outer join T12_grades g on p.student_id=g.student_id) left outer join T12_courses cl on p.student_id=cl.student_id) order by cl.course name;

	student	id	parent_mobile_no	course_id	marks	course_name
1	19BCS1	31	8899007762	NULL	NULL	NULL
2	19BCS1	36	8899007758	NULL	NULL	NULL
3	19BCS1	37	9870932235	NULL	NULL	NULL
4	19BCS1	46	8899080766	NULL	NULL	NULL
5	19BCS1	48	8891107766	NULL	NULL	NULL
6	19BCS1	52	9950453218	NULL	NULL	NULL
7	19BCS1	53	8796530021	NULL	NULL	NULL
8	19BCS1	90	9103748310	NULL	NULL	NULL
9	19BCS1	45	8899000751	CS210	65	DBMS
10	19BCS1	50	8811117766	NULL	NULL	DBMS
11	19BCS1	51	8899010366	NULL	NULL	DBMS
12	19BCS1	44	8899333766	CS211	77	DBMS
13	19BCS1	23	8899007766	CS211	89	DBMS
14	19BCS1	23	8899007766	CS210	90	DBMS
15	19BCS1	23	8899007766	CS210	89	DBMS
16	19BCS1	23	8899007766	CS211	90	DBMS
17	19BCS1	23	8899007766	CS211	89	MATHS
18	19BCS1	23	8899007766	CS211	90	MATHS
19	19BCS1	23	8899007766	CS210	89	MATHS
20	19BCS1	23	8899007766	CS210	90	MATHS

→RIGHT OUTER JOIN:

1)

use school

select c.course_id,s.student_id,s.first_name+' '+s.last_name as student_fullname,s.ph_no from T12 studentinfo s

right outer join T12_courses c on s.student_id=c.student_id order by course id desc;

	Results 🖺	Messages		
	course_id	student_id	student_fullname	ph_no
1	CS211	19BCS123	ANUPAMA MUNAGAPATI	1234568907
2	CS211	19BCS144	COUSHIK SAI	9440996234
3	CS211	19BCS145	KRITHIKA KUMAR	9079054670
4	CS211	19BCS150	IMMANUEL ST	8859034218
5	CS211	19BCS151	SURIYA KHILLADI	9075428944
6	CS210	19BCS149	IRFAN SHIEK	7789054678
7	CS210	19BCS145	KRITHIKA KUMAR	9079054670
8	CS210	19BCS142	SREERAM KESHVA	9507763210
9	CS210	19BCS143	THRINATH KUMAR	8076995430
10	CS210	19BCS144	COUSHIK SAI	9440996234
11	CS210	19BCS139	KRITHI SHETTY	9077654892
12	CS210	19BCS140	ANUSHKA SHARMA	9665894362
13	CS210	19BCS130	SANJAY KHAN	1245757843
14	CS210	19BCS132	JOHN ST	9987654033
15	CS210	19BCS123	ANUPAMA MUNAGAPATI	1234568907
16	CS210	19BCS134	SHAHRUKH KHAN	9054321998
17	CS210	19BCS135	SHILPA SHETTY	9908766548
18	CS201	19BCS138	SHYAM MUNGALA	8923556123
19	CS201	19BCS123	ANUPAMA MUNAGAPATI	1234568907
20	CS201	19BCS133	AKSHAY KHANNA	9887604321

2)

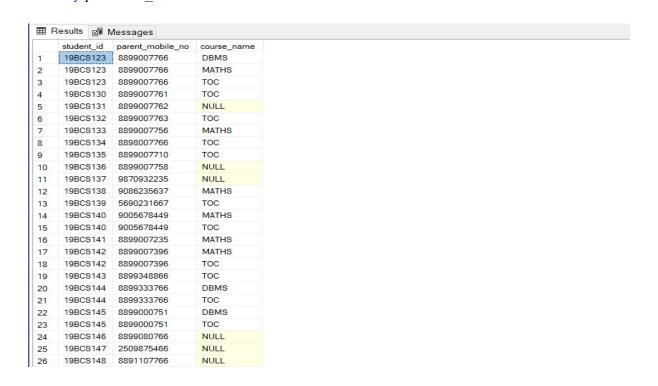
select g.grade,p.student_id,g.course_id,g.marks,p.parent_mobile_no
from ((T12_parentinfo p

right outer join T12_studentinfo s on p.student_id=s.student_id)

right outer join T12 grades g on p.student id=g.student id) order by g.grade;

⊞ F	Results	Message	es		
	grade	student_id	course_id	marks	parent_mobile_no
1	А	19BCS141	CS201	91	8899007235
2	A	19BCS123	CS210	90	8899007766
3	Α	19BCS134	CS210	93	8898007766
4	Α	19BCS140	CS210	92	9005678449
5	Α-	19BCS123	CS211	89	8899007766
6	A-	19BCS139	CS210	88	5690231667
7	Α-	19BCS142	CS201	84	8899007396
8	A-	19BCS133	CS201	86	8899007756
9	A-	19BCS138	CS201	85	9086235637
10	A-	19BCS140	CS201	89	9005678449
11	В	19BCS130	CS210	69	8899007761
12	В	19BCS143	CS210	67	8899348866
13	В	19BCS145	CS210	65	8899000751
14	B-	19BCS144	CS211	77	8899333766
15	B-	19BCS135	CS210	78	8899007710

select distinct p.student_id,p.parent_mobile_no,c1.course_name from (((T12_course_staff c right outer join T12_courses c1 on c.student_id=c1.student_id) right outer join T12_grades g on c.student_id=g.student_id) right outer join T12_parentinfo p on c.student_id=p.student_id) order by p.student id;



8) Use all the above condition in JOIN as well.

Query:

select s.student_id,min(s.first_name+' '+s.last_name) as student_fullname,c.course_id from T12_studentinfo s

inner join T12_courses c on s.student_id=c.student_id
group by c.course_id,s.student_id having s.student_id < '19bcs180'
order by student_id desc;

100 %

| 100 % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 10

	student_id	student_fullname	course_id
1	19BCS151	SURIYA KHILLADI	CS211
2	19BCS150	IMMANUEL ST	CS211
3	19BCS149	IRFAN SHIEK	CS210
4	19BCS147	SWAROOP GHATTAMANENI	CS201
5	19BCS145	KRITHIKA KUMAR	CS211
6	19BCS145	KRITHIKA KUMAR	CS210
7	19BCS144	COUSHIK SAI	CS211
8	19BCS144	COUSHIK SAI	CS210
9	19BCS143	THRINATH KUMAR	CS210
10	19BCS142	SREERAM KESHVA	CS210
11	19BCS142	SREERAM KESHVA	CS201
12	19BCS141	ANUSHKA SHETTY	CS201
13	19BCS140	ANUSHKA SHARMA	CS210
14	19BCS140	ANUSHKA SHARMA	CS201
15	19BCS139	KRITHI SHETTY	CS210
16	19BCS138	SHYAM MUNGALA	CS201
17	19BCS135	SHILPA SHETTY	CS210
18	19BCS134	SHAHRUKH KHAN	CS210
19	19BCS133	AKSHAY KHANNA	CS201
20	19BCS132	JOHN ST	CS210