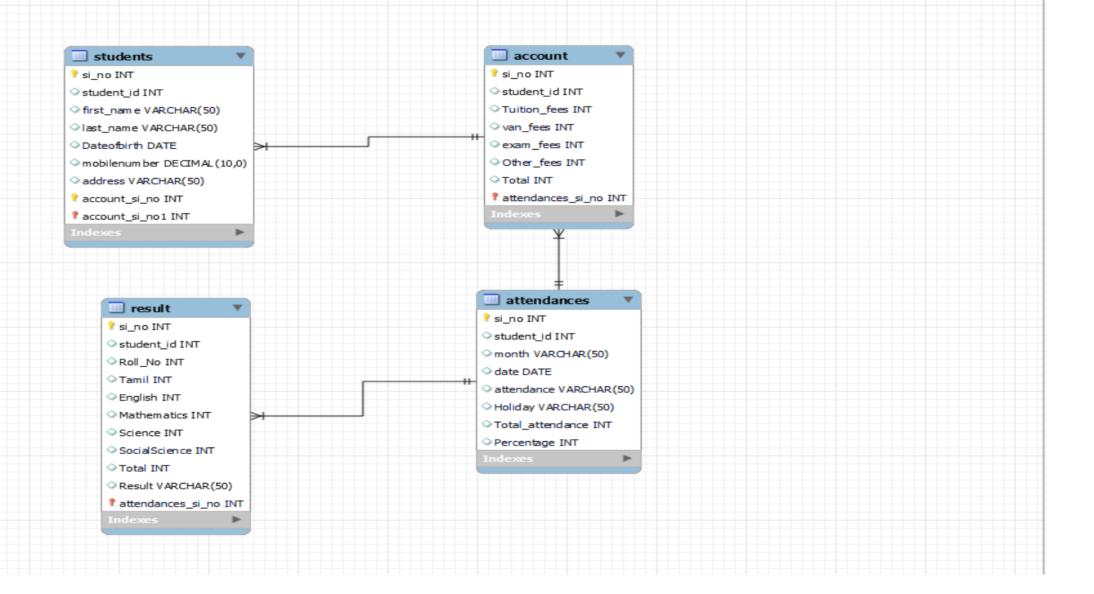
# Introduction: School student details

A school student Details case study typically explores the organizational structure, administrative processes, and strategic decisions within an educational institution. It often delves into how schools manage resources, personnel, student welfare, and academic programs to achieve their goals effectively. Case studies in school management can highlight challenges faced, innovative solutions implemented, and outcomes achieved, offering insights into best practices and lessons learned for improving educational administration and student outcomes. Introduction to school management

In the modern education, effective management of school operations is paramount to ensuring smooth functioning and optimal student outcomes. This case study delves into the application in managing diverse data sets within a school environment. SQL, a powerful tool for database management, plays a crucial role in organizing, retrieving, and analyzing data essential for decision-making across various administrative functions. This study examines how SQL is utilized to streamline processes such as student enrollment, attendance tracking, academic performance monitoring, and resource allocation and database management systems, school administrators can efficiently handle large volumes of data, maintain data integrity, and generate insightful reports to support strategic decision-making.



Throughout this case study, we will explore real-world to extract actionable insights from student records, faculty schedules, financial transactions students marks student all details to handle many records in sql.



```
create table student(si no int auto increment not null
student id int,
first name varchar(50),
last name varchar(50),
Dateofbirth date,
mobilenumber numeric,
address varchar(50),
primary key (si no)
select*from student:
insert into student (student id, First name, last name, Date of birth, mobile number, address) values (602050, 'Ajay', 'Dev', '2000-
06-09',9600238974,'Nevattankari');
insert into student (student id, First name, last name, Date of birth, mobile number, address) values
(602051,'Akash','Britto','2001-08-23',8523697561,'Ngo,Colony');
insert into student (student_id,First_ name,last_name,Dateofbirth,mobilenumber,address)values
(602052, 'Aromal', 'Babu', '2000-11-05', 9517534681, 'Parassala');
insert into student (student id, First name, last name, Date of birth, mobile number, address) values
(602053, 'Anusha', 'Bhanu', '2001-07-13', 8512369751, 'Ramanputhur');
insert into student (student id, First name, last name, Date of birth, mobile number, address) values
(602054, 'Athira', 'Nair', '2001-02-28', 7539524890, 'Nesamony Nagar');
```

```
Insert into student (student_id,First_name,last_name,Dateofbirth,mobilenumber,address)values (602055,'Benny','Alex','2000-09-09',9275386428,'Watertank Road Ngl');
```

insert into student (student\_id,First\_name,last\_name,Dateofbirth,mobilenumber,address)values (602056,'Beno','Sherbin','2000-01-24',8376932876,'WCC Road Ngl');

insert into student (student\_id,First\_name,last\_name,Dateofbirth,mobilenumber,address)values (602057,'Benisha','Rose','2000-03-07',7539518614,'sasthankarai');

insert into student (student\_id,First\_name,last\_name,Dateofbirth,mobilenumber,address)values (602058,'Gino','Sterbin','2001-11-27',9517536497,'Colachel');

insert into student (student\_id,First\_name,last\_name,Dateofbirth,mobilenumber,address)values (602059,'Jeberson','Samuel','2000-08-17',8631597561,'Vinoth Nagar ');

insert into student (student\_id,First\_name,last\_name,Dateofbirth,mobilenumber,address)values (602060,'Micheal','Raj','2000-04-06',7531596314,'Thiruvalluvar street');

insert into student (student\_id,First\_name,last\_name,Dateofbirth,mobilenumber,address)values (602061,'Nithish','Kumar','2001-09-16',8296363741,'Mondaymarket '); select\*from student;

```
create table Account(si_no int auto_increment not null,student_id int
```

```
Tuition fees int,
van fees int,
exam fees int,
Other fees
int,primary key(si no));
select*from Account;
insertintoAccount(student_id,Tuition_fees,van_fees,exam_fees,other_fees)values(602050,30000,5000,800,2000);
insert into Account (student id, Tuition fees, exam fees, other fees) values (602051, 30000, 800, 2000);
insert into Account (student id, Tuition fees, van fees, exam fees, other fees) values (602052, 30000, 4500, 800, 2000);
insertintoAccount(student id,Tuition fees,van fees,exam fees,other fees)values(602053,30000,6000,800,2000);
insert into Account (student _id,Tuition_fees,van_fees,exam_fees,other_fees)values(602054,30000,2500,800,2000);
insert into Account (student_id,Tuition_fees,exam_fees,other_fees)values(602055,30000,800,2000);
insert into Account (student id, Tuition fees, exam fees, other fees) values (602056, 30000, 800, 2000);
insert into Account (student id, Tuition fees, van fees, exam fees, other fees) values (602057, 30000, 1700, 800, 2000);
insert into Account (student id, Tuition fees, exam fees, other fees) values (602058, 30000, 800, 2000);
insert into Account (student id, Tuition fees, van fees, exam fees, other fees) values (602059, 30000, 2700, 800, 2000);
Insert into Account (student id, Tuition fees, exam fees, other fees) values (602060, 30000, 800, 2000);
insert into Account (student id, Tuition fees, van fees, exam fees, other fees) values (602061, 30000, 1850, 800, 2000);
```

```
create table attendances(si_no int auto_increment not null,
student_id int,month varchar(50),
date date, attendance varchar (50), primary key (si no)
select*from attendances;
insert into attendances (student id,month,date,attendance)values(602050,'January','2024-01-03','present');
insert into attendances (student_id,month,date,attendance)values(602051,'January','2024-01-03','present');
insert into attendances (student id,month,date,attendance)values(602052,'January','2024-01-03','Absent');
insert into attendances (student_id,month,date,attendance)values(602053,'January','2024-01-03','present');
insert into attendances (student_id,month,date,attendance)values(602054,'January','2024-01-03','Absent');
insert into attendances (student id,month,date,attendance)values(602055,'January','2024-01-03','present');
insert into attendances (student_id,month,date,attendance)values(602056,'January','2024-01-03','present');
insert into attendances (student id,month,date,attendance)values(602057,'January','2024-01-03','present');
insert into attendances (student id,month,date,attendance)values(602058,'January','2024-01-03','Absent');
insert into attendances (student id,month,date,attendance)values(602059,'January','2024-01-03','present');
insert into attendances (student id,month,date,attendance)values(602060,'January','2024-01-03','Absent');
insert into attendances (student id,month,date,attendance)values(602061,'January','2024-01-03','present');
Etc.....
```

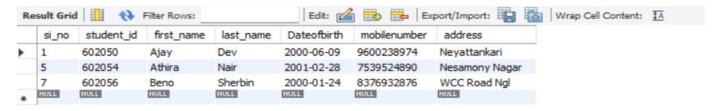
```
create table result(si_no int auto_increment not null,
student id int,
Roll No int,
Tamil int,
English int,
Mathematics int,
Science int,
SocialScience int,
Total int,
Result varchar(50),
primary key (si no)
select*from result:
Insertintoresult(student id,Roll No,Tamil,English,Mathematics,Science,SocialScience,Total,Result)values(602050,18283201,9
3,97,100,98,90,478,'Pass');
insertintoresul(student id,Roll No,Tamil,English,Mathematics,Science,SocialScience,Total,Result)values(602051,18283202,72
.87.68.80.67.374.'Pass'):
insertintoresult(student id,Roll No,Tamil,English,Mathematics,Science,SocialScience,Total,Result)values(602052,18283203,3
4,58,47,38,62,239,'Fail');
insertintoresult(student id,Roll No,Tamil,English,Mathematics,Science,SocialScience,Total,Result)values(602053,18283204,8
4,96,77,88,92,437,'Pass');
insertintoresult(student id,Roll No,Tamil,English,Mathematics,Science,SocialScience,Total,Result)values(602054,18283205,9
0,96,97,90,92,465,'Pass');
```

# Case study questions & Answers;

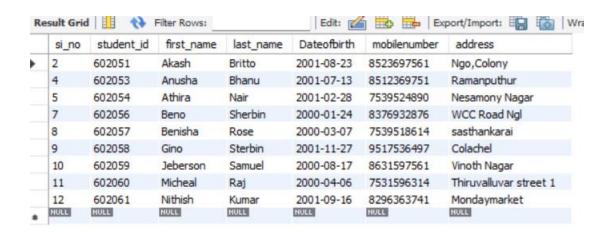
1.How to Retrieves all columns and rows from the student tables ? select\*from student;

	si_no	student_id	first_name	last_name	Dateofbirth	mobilenumber	address
1	L	602050	Ajay	Dev	2000-06-09	9600238974	Neyattankari
2	2	602051	Akash	Britto	2001-08-23	8523697561	Ngo,Colony
3	3	602052	Aromal	Babu	2000-11-05	9517534681	Parassala
4	1	602053	Anusha	Bhanu	2001-07-13	8512369751	Ramanputhur
5	5	602054	Athira	Nair	2001-02-28	7539524890	Nesamony Nagar
6	5	602055	Benny	Alex	2000-09-09	9275386428	Watertank Road Ngl
7	7	602056	Beno	Sherbin	2000-01-24	8376932876	WCC Road Ngl
8	3	602057	Benisha	Rose	2000-03-07	7539518614	sasthankarai
9	)	602058	Gino	Sterbin	2001-11-27	9517536497	Colachel
1	10	602059	Jeberson	Samuel	2000-08-17	8631597561	Vinoth Nagar
1	11	602060	Micheal	Raj	2000-04-06	7531596314	Thiruvalluvar street 1
1	2	602061	Nithish	Kumar	2001-09-16	8296363741	Mondaymarket

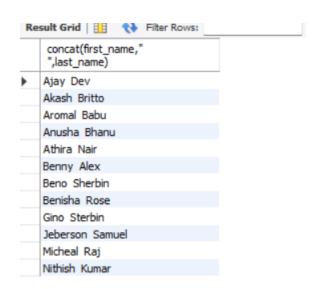
2. Return a list of student with the following first names:[Ajay,Beno,Athira] from student Table? select\*from student where first\_name in ('Ajay','Beno','Athira');



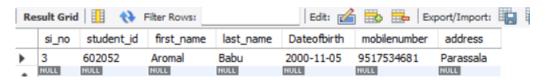
3.Return a list of all student expect those with the last names:[Dev,Alex,Babu] from Student Table ? select\*from student where last\_name not in ('Dev','Alex','Babu');



4. How to concat First names and last names in student table ? select concat(first\_name," ",last\_name) from student;



5 Return a list of student with the following first names Aromal and last name Babu from student table ? select \*from student where first\_name='Aromal' and last\_name='Babu';



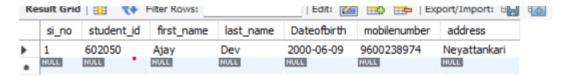
6. How to get student table in assending order ? select\*from student order by first\_name asc;



7. How to get student table in Descending order ? select\*from student order by first\_name desc;

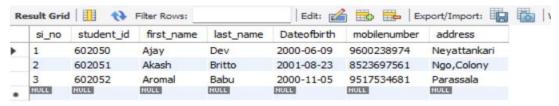


8. How to get data in one record student table using si\_no ? select\*from student where si\_no =1;



9. How to set a Limit 3 in student table?

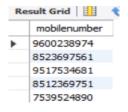
select \* from student limit 3;



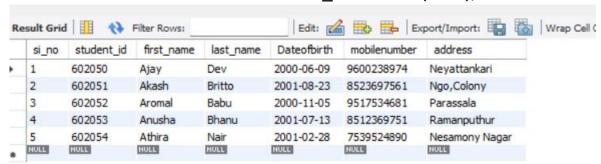
- 10. How to use a mobile number is in null and not null?
  - a, select mobilenumber from student where mobilenumber is null;



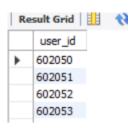
b, Select mobile number from student where mobile number is not null;



11. How to use Wildcards in student table ? select \* from student where first\_name like ('A%');

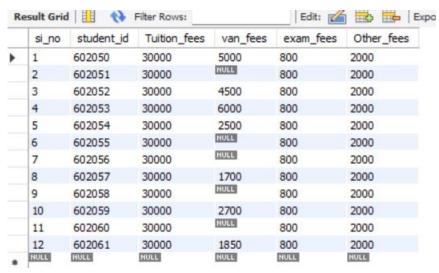


12. How to change the column name in student table using alias ? select student\_id as user\_id from student;



13. How to Retrieves all columns and rows from the Account tables?

## Select\*from Account;



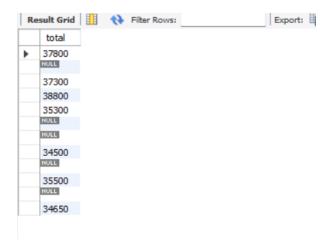
14. How to add new column in account tables?

alter table account add Total int;

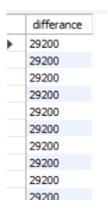
Re	esult Grid	ı 🔡 🙌	Filter Rows:	Edit:	₩ 🖶	Export/Imp	
	si_no	student_id	Tuition_fees	van_fees	exam_fees	Other_fees	Total
•	1	602050	30000	5000	800	2000	NULL
	2	602051	30000	NULL	800	2000	NULL
	3	602052	30000	4500	800	2000	NULL
	4	602053	30000	6000	800	2000	NULL
	5	602054	30000	2500	800	2000	NULL
	6	602055	30000	NULL	800	2000	NULL
	7	602056	30000	NULL	800	2000	NULL
	8	602057	30000	1700	800	2000	NULL

15. How to add account in account tables?

select (tuition\_fees+van\_fees+exam\_fees+other\_fees) as total from account;

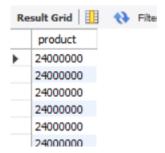


16. How to subtract tuition fees and exam fees in account tables? select (tuition\_fees-exam\_fees) as Differance from account;



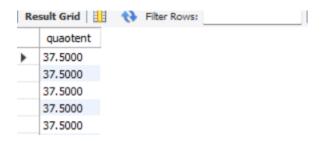
17. How to multiply Tuitionfees and examfees from account table?

select (tuition\_fees\*exam\_fees) as product from account ;



18. How to Divided in tuitionfees and examfees from account table?

select (tuition\_fees/exam\_fees) as quaotent from account;

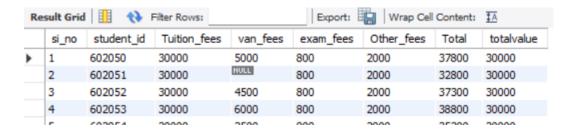


19. How to update a column in account tables?

update account set total = 37800 where si\_no=1;



20.How to find total value account table in tuition fees ? select \*,(Tuition\_fees) as totalvalue from account;



21. How to find total spent value in account table in exam fees ? select(exam\_fees) as total\_spent from account;



22. How to find Maximum value in total in Account tables?

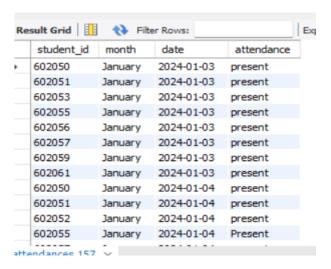
select max(total) as max\_total from account;



23. How to find Minimum value in total Account tables? select min(total) as min\_total from account;



24. How to find Attendance table student\_id of students who where present in January? select student\_id,month,date,attendance from attendances where month ='January' and attendance='present';

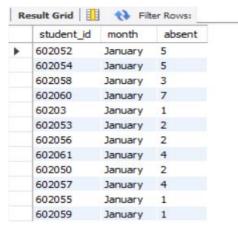


25. How to find Attendance table student\_id of students who where absent in January ? select student\_id,month,date,attendance from attendances where month ='January' and attendance='absent';

	student_id	month	date	attendance
Þ	602052	January	2024-01-03	Absent
	602054	January	2024-01-03	Absent
	602058	January	2024-01-03	Absent
	602060	January	2024-01-03	Absent
	60203	January	2024-01-04	Absent
	602053	January	2024-01-04	Absent
	602054	January	2024-01-04	Absent
	602056	January	2024-01-04	Absent
	602061	January	2024-01-04	Absent
	602050	January	2024-01-05	Absent
	602052	January	2024-01-05	Absent
	602056	January	2024-01-05	Absent

26. How to count Attendance table student\_id ,month who where absent in January in using group by ?

select student\_id,month ,count(attendance) as absent from attendances where attendance='absent' and month ='january' group by student\_id;



27. How to count attendance table student\_id,month who where present in Febuary in using group by ? select student\_id,month ,count(attendance) as present from attendances where month ='febuary'and attendance='Present' group by student\_id;

Re	esult Grid	₹≯ Filt	er Rows:	
	student_id	month	present	
•	602050	Febuary	1	
	602051	Febuary	1	
	602052	Febuary	1	
	602053	Febuary	1	
	602054	Febuary	1	
	602055	Febuary	1	
	602056	Febuary	1	
	602057	Febuary	1	
	602058	Febuary	1	
	602059	Febuary	1	
	602060	Febuary	1	
	602061	Febuary	1	

28. How to find Attendance table Holiday is not null to use student\_id ,Month and absent ? select month,date,holiday from attendances where Holiday is not null;

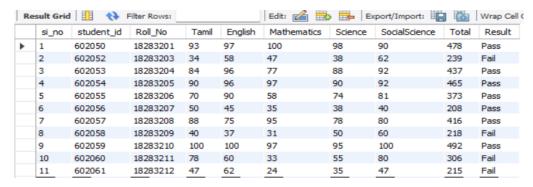
	month	date	holiday
•	january	2024-01-06	saturday
	january	2024-01-07	sunday
	january	2024-01-13	saturday
	january	2024-01-14	sunday
	january	2024-01-16	Pongal
	january	2024-01-17	Pongal
	january	2024-01-18	Pongal
	january	2024-01-19	Pongal
	january	2024-01-20	saturday
	january	2024-01-21	sunday
	january	2024-01-27	saturday
	january	2024-01-28	sunday

29. How to find percentage in attendance table?
select (13/29)\*100 as percentage from attendances where si\_no =12;

Re	sult Grid	III 🙌	Filter Rows:		Edit:	<b>≦</b>	Export/Import:	₩ W
	si_no	student_id	month	date	attendance	Holiday	Total_attendance	Percentage
•	1	602050	January	2024-01-03	present	NULL	15	51
	2	602051	January	2024-01-03	present	NULL	16	41
	3	602052	January	2024-01-03	Absent	NULL	15	51
	4	602053	January	2024-01-03	present	NULL	15	51
	5	602054	January	2024-01-03	Absent	NULL	12	41
	6	602055	January	2024-01-03	present	NULL	16	55
	7	602056	January	2024-01-03	present	NULL	15	51
	8	602057	January	2024-01-03	present	NULL	13	44
	9	602058	January	2024-01-03	Absent	NULL	14	48
	10	602059	January	2024-01-03	present	NULL	16	55
	11	602060	January	2024-01-03	Absent	NULL	10	34
	12	602061	January	2024-01-03	present	NULL	13	44

30. How to Retrieves all columns and rows from the result tables?

select\*from result;



31. What is maximun total in result tables?

select max(total) as maximumtotal from result;



32. What is minimum total in result tables?
select min(total) as minimumtotal from result;



33. How to order a result column using order by ?
select\*from result order by result;

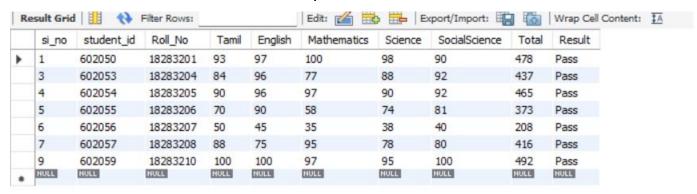
Total	Result
239	Fail
218	Fail
306	Fail
215	Fail
478	Pass
437	Pass
465	Pass
373	Pass
208	Pass
416	Pass
492	Pass

34. How to find failed students in result tables? select\*from result where result="fail";

Re	sult Grid	<u>                                    </u>	Filter Rows:			Edit: 🚄 🗮	) 🏪   Б	oport/Import:		Wrap Cell	Content:	<u>‡</u> #
	si_no	student_id	Roll_No	Tamil	English	Mathematics	Science	SocialScience	Total	Result		
•	2	602052	18283203	34	58	47	38	62	239	Fail		
	8	602058	18283209	40	37	31	50	60	218	Fail		
	10	602060	18283211	78	60	33	55	80	306	Fail		
	11	602061	18283212	47	62	24	35	47	215	Fail		
-	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL		

35. How to find passed student in result tables?

select\*from result where result="pass";



36.How many students pass in result table using count?

select count(result) as pass from result where result ='pass';



37. How many students Failed in result table using count? select count(result) as fail from result where result ='fail';



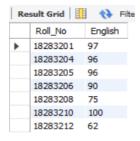
38. How to find average total with Rollno in result tables using > than?

select roll\_no,total from result where total >(select avg(total) from result);

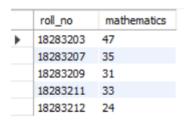


39. How to find > 60 Marks in English and < 50 marks in Maths with student Roll no?

a)select Roll\_No, English from result where english >60;



b) select Roll\_no ,Mathematics from result where Mathematics <50;



40. How to use Group by , order by , Having count <2 in result table to use student\_id,Roll\_no,Total?

select student\_id,Roll\_No,total from result where student\_id in
(select student\_id from result group by student\_id having count(\*)<2) order by 1;</pre>

Re	Result Grid						
	student_id	Roll_No	total				
•	602050	18283201	478				
	602051	18283202	374				
	602052	18283203	239				
	602053	18283204	437				
	602054	18283205	465				
	602055	18283206	373				
	602056	18283207	208				
	602057	18283208	416				
	602058	18283209	218				
	602059	18283210	492				
	602060	18283211	306				
	602061	18283212	215				

41. How to Apply the case statement in result table in to find total?

```
select student_id,
```

Case

when total between 100 and 310 then 'poor'

when total between 320 and 400 then 'medium'

when total between 400 and 470 then 'Good'

when total between 470 and 500 then 'Excelent'

else'undefined'

end as

Total from result;



42.Using joins to find concat first\_name and last\_name,DOB,percentage,exam fees ,all subject ,total ,and result to take a output in all tables ?

selectconcat(s.first\_name," ",s.last\_name), s.Dateofbirth,Ae.percentage, a.Exam\_fees,r.Roll\_no,r.Tamil,r.English,r.Mathematics,r.Science,r.SocialScience,r.Total,r.Result

from student s

join Account a

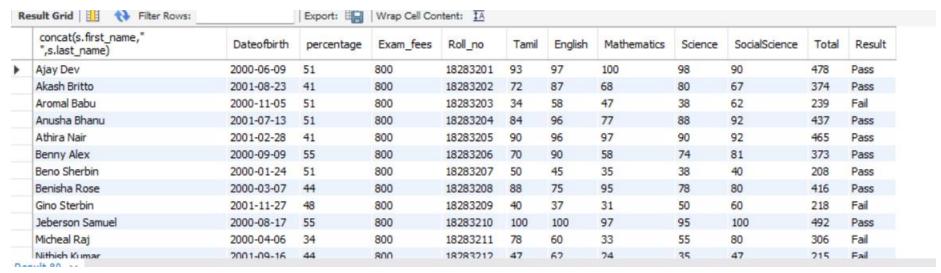
on s.student\_id=a.student\_id

join attendances ae

on a.student id=ae.student id

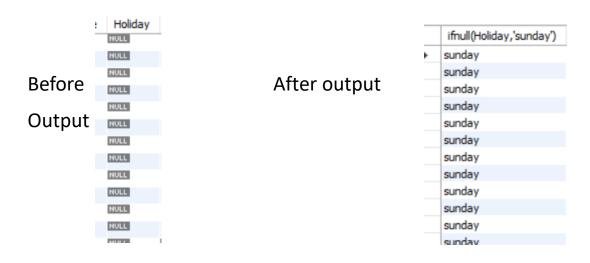
join result r

on r.student\_id=ae.student\_id;



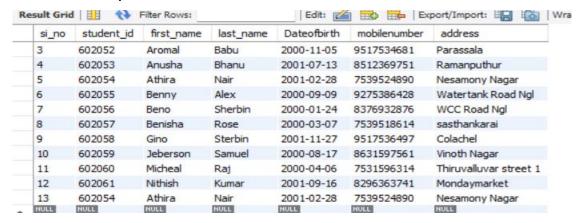
43. How to use if null to get a not null values?

select ifnull(Holiday, 'sunday') from attendances;



44. How to delete a one data one row Two times to using student Table? delete from student where si\_no =13;

#### Before out put: row 5 and 13 same



### After output:

si_no	student_id	first_name	last_name	Dateofbirth	mobilenumber	address
1	602050	Ajay	Dev	2000-06-09	9600238974	Neyattankari
2	602051	Akash	Britto	2001-08-23	8523697561	Ngo, Colony
3	602052	Aromal	Babu	2000-11-05	9517534681	Parassala
4	602053	Anusha	Bhanu	2001-07-13	8512369751	Ramanputhur
5	602054	Athira	Nair	2001-02-28	7539524890	Nesamony Nagar
6	602055	Benny	Alex	2000-09-09	9275386428	Watertank Road Ngl
7	602056	Beno	Sherbin	2000-01-24	8376932876	WCC Road Ngl
8	602057	Benisha	Rose	2000-03-07	7539518614	sasthankarai
9	602058	Gino	Sterbin	2001-11-27	9517536497	Colachel
10	602059	Jeberson	Samuel	2000-08-17	8631597561	Vinoth Nagar
11	602060	Micheal	Raj	2000-04-06	7531596314	Thiruvalluvar street 1
12	602061	Nithish	Kumar	2001-09-16	8296363741	Mondaymarket