

Name	Shreeya Nemade, Dnyandeep Yashwant Gaonkar, Rudrapratapsing Rajput																																																																																																																																
UID	2024801009, 2024801003, 2024801014																																																																																																																																
Experiment No.	3																																																																																																																																
Aim	Data retrieval using simple SQL commands and Aggregate Functions																																																																																																																																
Problem Statement	String Operations like%, like_, where with (<, >, <=, >=, <>), AND, OR, NOT IN, IN, BETWEEN Cartesian Product with 2 or more than 2 tables should be used. SUM, COUNT, MAX, MIN, AVG, GROUP BY and group by having clause.																																																																																																																																
Commands	<pre>mysql> select * from Donor;</pre> <table><thead><tr><th>id</th><th>firstname</th><th>lastname</th><th>contact</th><th>email</th><th>bloodgroup</th><th>Age</th><th>healthstatus</th></tr></thead><tbody><tr><td>101</td><td>Sujal</td><td>Dingankar</td><td>7798802841</td><td>sujal.dingankar@spit.ac.in</td><td>O+</td><td>20</td><td>Healthy</td></tr><tr><td>102</td><td>Shreeya</td><td>Nemade</td><td>7698231082</td><td>shreeya.nemade@spit.ac.in</td><td>A+</td><td>19</td><td>Healthy</td></tr><tr><td>103</td><td>Harsha</td><td>Surwase</td><td>5612798561</td><td>harsha.surwase@spit.ac.in</td><td>B+</td><td>21</td><td>Healthy</td></tr><tr><td>104</td><td>Avi</td><td>Patil</td><td>1234598745</td><td>avinash.patil@spit.ac.in</td><td>AB+</td><td>18</td><td>Healthy</td></tr><tr><td>105</td><td>Shruti</td><td>Bhuvad</td><td>455612345</td><td>shruti.bhuvad@spit.ac.in</td><td>A+</td><td>22</td><td>Healthy</td></tr></tbody></table> <pre>5 rows in set (0.00 sec)</pre> <p>This is Donor Table.</p> <pre>mysql> select * from Donor where email like '%dingankar%';</pre> <table><thead><tr><th>id</th><th>firstname</th><th>lastname</th><th>contact</th><th>email</th><th>bloodgroup</th><th>Age</th><th>healthstatus</th></tr></thead><tbody><tr><td>101</td><td>Sujal</td><td>Dingankar</td><td>7798802841</td><td>sujal.dingankar@spit.ac.in</td><td>O+</td><td>20</td><td>Healthy</td></tr></tbody></table> <pre>1 row in set (0.00 sec)</pre> <p>The above SQL command will retrieve records where the 'email' attribute contains the value 'dingankar' anywhere within it.</p> <pre>mysql> select * from Donor where age >= 20;</pre> <table><thead><tr><th>id</th><th>firstname</th><th>lastname</th><th>contact</th><th>email</th><th>bloodgroup</th><th>Age</th><th>healthstatus</th></tr></thead><tbody><tr><td>101</td><td>Sujal</td><td>Dingankar</td><td>7798802841</td><td>sujal.dingankar@spit.ac.in</td><td>O+</td><td>20</td><td>Healthy</td></tr><tr><td>103</td><td>Harsha</td><td>Surwase</td><td>5612798561</td><td>harsha.surwase@spit.ac.in</td><td>B+</td><td>21</td><td>Healthy</td></tr><tr><td>105</td><td>Shruti</td><td>Bhuvad</td><td>455612345</td><td>shruti.bhuvad@spit.ac.in</td><td>A+</td><td>22</td><td>Healthy</td></tr></tbody></table> <pre>3 rows in set (0.00 sec)</pre> <p>This command will retrieve records where age is greater than or equal to 20.</p> <pre>mysql> select * from Donor where age <= 20 AND contact NOT LIKE '%0';</pre> <table><thead><tr><th>id</th><th>firstname</th><th>lastname</th><th>contact</th><th>email</th><th>bloodgroup</th><th>Age</th><th>healthstatus</th></tr></thead><tbody><tr><td>101</td><td>Sujal</td><td>Dingankar</td><td>7798802841</td><td>sujal.dingankar@spit.ac.in</td><td>O+</td><td>20</td><td>Healthy</td></tr><tr><td>102</td><td>Shreeya</td><td>Nemade</td><td>7698231082</td><td>shreeya.nemade@spit.ac.in</td><td>A+</td><td>19</td><td>Healthy</td></tr><tr><td>104</td><td>Avi</td><td>Patil</td><td>1234598745</td><td>avinash.patil@spit.ac.in</td><td>AB+</td><td>18</td><td>Healthy</td></tr></tbody></table> <pre>3 rows in set (0.00 sec)</pre> <p>This command retrieve records where age is equal or less than 20 and their contact no not ends with 0.</p>	id	firstname	lastname	contact	email	bloodgroup	Age	healthstatus	101	Sujal	Dingankar	7798802841	sujal.dingankar@spit.ac.in	O+	20	Healthy	102	Shreeya	Nemade	7698231082	shreeya.nemade@spit.ac.in	A+	19	Healthy	103	Harsha	Surwase	5612798561	harsha.surwase@spit.ac.in	B+	21	Healthy	104	Avi	Patil	1234598745	avinash.patil@spit.ac.in	AB+	18	Healthy	105	Shruti	Bhuvad	455612345	shruti.bhuvad@spit.ac.in	A+	22	Healthy	id	firstname	lastname	contact	email	bloodgroup	Age	healthstatus	101	Sujal	Dingankar	7798802841	sujal.dingankar@spit.ac.in	O+	20	Healthy	id	firstname	lastname	contact	email	bloodgroup	Age	healthstatus	101	Sujal	Dingankar	7798802841	sujal.dingankar@spit.ac.in	O+	20	Healthy	103	Harsha	Surwase	5612798561	harsha.surwase@spit.ac.in	B+	21	Healthy	105	Shruti	Bhuvad	455612345	shruti.bhuvad@spit.ac.in	A+	22	Healthy	id	firstname	lastname	contact	email	bloodgroup	Age	healthstatus	101	Sujal	Dingankar	7798802841	sujal.dingankar@spit.ac.in	O+	20	Healthy	102	Shreeya	Nemade	7698231082	shreeya.nemade@spit.ac.in	A+	19	Healthy	104	Avi	Patil	1234598745	avinash.patil@spit.ac.in	AB+	18	Healthy
id	firstname	lastname	contact	email	bloodgroup	Age	healthstatus																																																																																																																										
101	Sujal	Dingankar	7798802841	sujal.dingankar@spit.ac.in	O+	20	Healthy																																																																																																																										
102	Shreeya	Nemade	7698231082	shreeya.nemade@spit.ac.in	A+	19	Healthy																																																																																																																										
103	Harsha	Surwase	5612798561	harsha.surwase@spit.ac.in	B+	21	Healthy																																																																																																																										
104	Avi	Patil	1234598745	avinash.patil@spit.ac.in	AB+	18	Healthy																																																																																																																										
105	Shruti	Bhuvad	455612345	shruti.bhuvad@spit.ac.in	A+	22	Healthy																																																																																																																										
id	firstname	lastname	contact	email	bloodgroup	Age	healthstatus																																																																																																																										
101	Sujal	Dingankar	7798802841	sujal.dingankar@spit.ac.in	O+	20	Healthy																																																																																																																										
id	firstname	lastname	contact	email	bloodgroup	Age	healthstatus																																																																																																																										
101	Sujal	Dingankar	7798802841	sujal.dingankar@spit.ac.in	O+	20	Healthy																																																																																																																										
103	Harsha	Surwase	5612798561	harsha.surwase@spit.ac.in	B+	21	Healthy																																																																																																																										
105	Shruti	Bhuvad	455612345	shruti.bhuvad@spit.ac.in	A+	22	Healthy																																																																																																																										
id	firstname	lastname	contact	email	bloodgroup	Age	healthstatus																																																																																																																										
101	Sujal	Dingankar	7798802841	sujal.dingankar@spit.ac.in	O+	20	Healthy																																																																																																																										
102	Shreeya	Nemade	7698231082	shreeya.nemade@spit.ac.in	A+	19	Healthy																																																																																																																										
104	Avi	Patil	1234598745	avinash.patil@spit.ac.in	AB+	18	Healthy																																																																																																																										

```
mysql> select * from Donor where bloodgroup like '_+';
```

id	firstname	lastname	contact	email	bloodgroup	Age	healthstatus
101	Sujal	Dingankar	7798802841	suja1.dingankar@spit.ac.in	O+	20	Healthy
102	Shreeya	Nemade	7698231082	shreeya.nemade@spit.ac.in	A+	19	Healthy
103	Harsha	Surwase	5612798561	harsha.surwase@spit.ac.in	B+	21	Healthy
105	Shruti	Bhuvad	455612345	shruti.bhuvad@spit.ac.in	A+	22	Healthy

```
4 rows in set (0.00 sec)
```

This command retrieves records where the blood group has exactly one character followed by a plus sign (+).

```
mysql> select * from Donor where bloodgroup like '_+' OR Age between 18 and 20;
```

id	firstname	lastname	contact	email	bloodgroup	Age	healthstatus
101	Sujal	Dingankar	7798802841	suja1.dingankar@spit.ac.in	O+	20	Healthy
102	Shreeya	Nemade	7698231082	shreeya.nemade@spit.ac.in	A+	19	Healthy
103	Harsha	Surwase	5612798561	harsha.surwase@spit.ac.in	B+	21	Healthy
104	Avi	Patil	1234598745	avinash.patil@spit.ac.in	AB+	18	Healthy
105	Shruti	Bhuvad	455612345	shruti.bhuvad@spit.ac.in	A+	22	Healthy

```
5 rows in set (0.00 sec)
```

This command retrieves records where the blood group consists of exactly one character followed by a plus sign (+) or where the age is between 18 and 20, inclusive.

Aggregate Function:

```
mysql> select count(id) AS No_Of_Donor from Donor;
```

No_Of_Donor
5

```
1 row in set (0.00 sec)
```

This query return the total no of donors present in the Donor table.

```
mysql> select avg(age) AS avg_Age from Donor;
```

avg_Age
20.0000

```
1 row in set (0.00 sec)
```

This query return average age among the records present in the Donor table.

```
mysql> select min(age) AS min_Age from Donor;
+-----+
| min_Age |
+-----+
|      18 |
+-----+
1 row in set (0.00 sec)
```

This query returns minimum age among the records present in the Donor table.

```
mysql> select max(age) AS max_Age from Donor;
+-----+
| max_Age |
+-----+
|      22 |
+-----+
1 row in set (0.00 sec)
```

This query returns maximum age among the records present in the Donor table.

```
mysql> select sum(quantity) AS Total_Blood_Quantity from Blood;
+-----+
| Total_Blood_Quantity |
+-----+
|                530 |
+-----+
1 row in set (0.00 sec)
```

This query returns Total amount of Blood present in the records in Blood table.

Group By Clause:

```
mysql> select Bloodgroup, count(*) AS donor_count from Donor group by bloodgroup;
+-----+-----+
| Bloodgroup | donor_count |
+-----+-----+
| O+        |           1 |
| A+        |           2 |
| B+        |           1 |
| AB+       |           1 |
+-----+-----+
4 rows in set (0.00 sec)
```

This query returns no of blood donor for particular blood group.

	<pre>mysql> select Bloodgroup, count(*) AS donne_count -> from Donne group by bloodgroup having bloodgroup like '_+'; +-----+-----+ Bloodgroup donne_count +-----+-----+ A+ 2 O+ 1 +-----+-----+ 2 rows in set (0.00 sec)</pre> <p>This query return no of Donne for blood for particular blood group and also checks the blood group has exactly one character followed by a plus sign (+).</p>
Conclusion	From this experiment I learnt Data Retrival COMMANDS and Aggregate Functions in MySql.