```
1    DBMSL Assignment No 2 B
2    Name - Himanshu Vijay Lonkar
3    Roll No - C31149
4    Batch - T3
5
6    Output-
7
8    1.Insert atleast five records in each table.
9
10       mysql> use Medical;
11       Database changed
12       mysql> create table Patient(
13           -> pat_id varchar(20),pat_name varchar(100),date_adm date,age int,city
              varchar(30),primary key(pat_id));
14       Query OK, 0 rows affected (0.04 sec)
15
16       mysql> desc Patient;
17       +----------+--------------+------+-----+---------+-------+
18       | Field    | Type         | Null | Key | Default | Extra |
19       +----------+--------------+------+-----+---------+-------+
20       | pat_id   | varchar(20)  | NO   | PRI | NULL    |       |
21       | pat_name | varchar(100) | YES  |     | NULL    |       |
22       | date_adm | date         | YES  |     | NULL    |       |
23       | age      | int          | YES  |     | NULL    |       |
24       | city     | varchar(30)  | YES  |     | NULL    |       |
25       +----------+--------------+------+-----+---------+-------+
26       5 rows in set (0.00 sec)
27
28       mysql> insert into Patient(pat_id,pat_name,age,city)
         values('p1','Ram',25,'Nagar'),('p2','Sham',30,'Pune');
29       Query OK, 2 rows affected (0.01 sec)
30       Records: 2  Duplicates: 0  Warnings: 0
31
32       mysql> insert into Patient
         values('p3','Aarya','2023-1-20',35,'Mumbai'),('p4','Shivam','2023-4-10',40,'Nashik'),
         ('p10','Vardan','2022-6-5',45,'Pune'),('p5','Nupur','2022-8-15',16,'Nashik');
33       Query OK, 4 rows affected (0.01 sec)
34       Records: 4  Duplicates: 0  Warnings: 0
35
36       mysql> select *from Patient;
37       +--------+----------+------------+------+--------+
38       | pat_id | pat_name | date_adm   | age  | city   |
39       +--------+----------+------------+------+--------+
40       | p1     | Ram      | NULL       |   25 | Nagar  |
41       | p10    | Vardan   | 2022-06-05 |   45 | Pune   |
42       | p2     | Sham     | NULL       |   30 | Pune   |
43       | p3     | Aarya    | 2023-01-20 |   35 | Mumbai |
44       | p4     | Shivam   | 2023-04-10 |   40 | Nashik |
45       | p5     | Nupur    | 2022-08-15 |   16 | Nashik |
46       +--------+----------+------------+------+--------+
47       6 rows in set (0.00 sec)
48
49
50       mysql> create table Doctors(doc_id varchar(20),doc_name varchar(100),qualification
         varchar(80),exp decimal(4,2),dept varchar(80),city varchar(30),salary int
51       ,primary key(doc_id));
52       Query OK, 0 rows affected (0.03 sec)
53
54       mysql> desc Doctors;
55       +---------------+--------------+------+-----+---------+-------+
56       | Field         | Type         | Null | Key | Default | Extra |
57       +---------------+--------------+------+-----+---------+-------+
58       | doc_id        | varchar(20)  | NO   | PRI | NULL    |       |
59       | doc_name      | varchar(100) | YES  |     | NULL    |       |
60       | qualification | varchar(80)  | YES  |     | NULL    |       |
61       | exp           | decimal(4,2) | YES  |     | NULL    |       |
62       | dept          | varchar(80)  | YES  |     | NULL    |       |
63       | city          | varchar(30)  | YES  |     | NULL    |       |
64       | salary        | int          | YES  |     | NULL    |       |
```

```
65         +--------------+------------+------+-----+--------+-------+
66         7 rows in set (0.00 sec)
67
68         mysql> insert into Doctors
           values('d1','Dr.Suhas','MD','10.0','OPD','Pune',100000),('d2','Dr.Shubham','MBBS','12
           .5','OPD','Baramati',200000),('d3','Dr.Abhinav','Oncologist','22.0','Cancer','Nagar',
           300000),('d4','Dr.Vinit','Oncologist','22.5','Cancer','Mumbai',300000),('d5','Dr.Vija
           y','BDS','5.0','Dentist','Pune',200000),('d6','Dr.Nirmala','Cardiologist','30.0','Car
           diology','Satara',500000);
69         Query OK, 6 rows affected (0.01 sec)
70         Records: 6  Duplicates: 0  Warnings: 0
71
72         mysql> select * from Doctors;
73         +--------+------------+--------------+-------+-----------+----------+--------+
74         | doc_id | doc_name   | qualification | exp   | dept      | city     | salary |
75         +--------+------------+--------------+-------+-----------+----------+--------+
76         | d1     | Dr.Suhas   | MD           | 10.00 | OPD       | Pune     | 100000 |
77         | d2     | Dr.Shubham | MBBS         | 12.50 | OPD       | Baramati | 200000 |
78         | d3     | Dr.Abhinav | Oncologist   | 22.00 | Cancer    | Nagar    | 300000 |
79         | d4     | Dr.Vinit   | Oncologist   | 22.50 | Cancer    | Mumbai   | 300000 |
80         | d5     | Dr.Vijay   | BDS          |  5.00 | Dentist   | Pune     | 200000 |
81         | d6     | Dr.Nirmala | Cardiologist | 30.00 | Cardiology | Satara  | 500000 |
82         +--------+------------+--------------+-------+-----------+----------+--------+
83         6 rows in set (0.00 sec)
84
85         mysql> create table Treats(doc_id varchar(20),pat_id varchar(20),disease
           varchar(80),fees int,foreign key(doc_id) references Doctors(doc_id) on delete
           cascade,foreign key(pat_id) references Patient(pat_id) on delete set NULL);
86         Query OK, 0 rows affected (0.04 sec)
87
88         mysql> desc Treats;
89         +--------+------------+------+-----+---------+-------+
90         | Field  | Type       | Null | Key | Default | Extra |
91         +--------+------------+------+-----+---------+-------+
92         | doc_id | varchar(20) | YES  | MUL | NULL    |       |
93         | pat_id | varchar(20) | YES  | MUL | NULL    |       |
94         | disease | varchar(80) | YES |     | NULL    |       |
95         | fees   | int        | YES  |     | NULL    |       |
96         +--------+------------+------+-----+---------+-------+
97         4 rows in set (0.00 sec)
98
99         mysql> insert into Treats
           values('d1','p1','Dengue',10000),('d1','p2','Corona',20000),('d2','p3','Nemonia',4000
           0),('d4','p4','Cancer',100000),('d3','p5','Cancer',100000),('d6','p10','Blockage',200
           000),('d5','p1','Root Canal',20000);
100        Query OK, 7 rows affected (0.01 sec)
101        Records: 7  Duplicates: 0  Warnings: 0
102
103        mysql> select * from Treats;
104        +--------+--------+------------+--------+
105        | doc_id | pat_id | disease    | fees   |
106        +--------+--------+------------+--------+
107        | d1     | p1     | Dengue     |  10000 |
108        | d1     | p2     | Corona     |  20000 |
109        | d2     | p3     | Nemonia    |  40000 |
110        | d4     | p4     | Cancer     | 100000 |
111        | d3     | p5     | Cancer     | 100000 |
112        | d6     | p10    | Blockage   | 200000 |
113        | d5     | p1     | Root Canal |  20000 |
114        +--------+--------+------------+--------+
115        7 rows in set (0.00 sec)
116
117   2.Display all the patient names between the age 18 to 50.
118
119        mysql> select pat_name from Patient where age between 18 and 50;
120        +----------+
121        | pat_name |
122        +----------+
123        | Ram      |
```

```
124        | Vardan   |
125        | Sham     |
126        | Aarya    |
127        | Shivam   |
128        +----------+
129        5 rows in set (0.00 sec)
130
131    3.Display the list Doctors who are MD.
132
133        mysql> select *from Doctors where qualification='MD';
134        +--------+----------+---------------+-------+------+------+--------+
135        | doc_id | doc_name | qualification | exp   | dept | city | salary |
136        +--------+----------+---------------+-------+------+------+--------+
137        | d1     | Dr.Suhas | MD            | 10.00 | OPD  | Pune | 100000 |
138        +--------+----------+---------------+-------+------+------+--------+
139        1 row in set (0.00 sec)
140
141    4.Display the list of Doctors whose experience is 20 plus years.
142
143        mysql> select *from Doctors where exp>20;
144        +--------+------------+---------------+-------+------------+--------+--------+
145        | doc_id | doc_name   | qualification | exp   | dept       | city   | salary |
146        +--------+------------+---------------+-------+------------+--------+--------+
147        | d3     | Dr.Abhinav | Oncologist    | 22.00 | Cancer     | Nagar  | 300000 |
148        | d4     | Dr.Vinit   | Oncologist    | 22.50 | Cancer     | Mumbai | 300000 |
149        | d6     | Dr.Nirmala | Cardiologist  | 30.00 | Cardiology | Satara | 500000 |
150        +--------+------------+---------------+-------+------------+--------+--------+
151        3 rows in set (0.00 sec)
152
153    5.Display the patient suffering from Cancer.
154
155        mysql> select pat_name,disease from Patient,Treats where
           Treats.pat_id=Patient.pat_id and disease='Cancer';
156        +----------+---------+
157        | pat_name | disease |
158        +----------+---------+
159        | Shivam   | Cancer  |
160        | Nupur    | Cancer  |
161        +----------+---------+
162        2 rows in set (0.00 sec)
163
164    6.Display the Patient name and Doctor name eho treated the cancer patient.
165
166        mysql> select pat_name,doc_name,disease from Patient,Treats,Doctors where
           Treats.doc_id=Doctors.doc_id and Treats.pat_id=Patient.pat_id and disease='Cancer';
167        +----------+------------+---------+
168        | pat_name | doc_name   | disease |
169        +----------+------------+---------+
170        | Shivam   | Dr.Vinit   | Cancer  |
171        | Nupur    | Dr.Abhinav | Cancer  |
172        +----------+------------+---------+
173        2 rows in set (0.00 sec)
174
175    7.Display the patient name whose name starts with 'A' , ends with 'A' having the 5
       letters.
176
177        mysql> select *from Patient where pat_name LIKE "A___A";
178        +--------+----------+------------+------+--------+
179        | pat_id | pat_name | date_adm   | age  | city   |
180        +--------+----------+------------+------+--------+
181        | p3     | Aarya    | 2023-01-20 |   35 | Mumbai |
182        +--------+----------+------------+------+--------+
183        1 row in set (0.00 sec)
184
185    8.Remove all the records of patient with patient id = p10.
186
187        mysql> delete from Patient where pat_id='p10';
188        Query OK, 1 row affected (0.01 sec)
189
```

```
190      mysql> select *from Patient;
191      +--------+----------+------------+------+--------+
192      | pat_id | pat_name | date_adm   | age  | city   |
193      +--------+----------+------------+------+--------+
194      | p1     | Ram      | NULL       |   25 | Nagar  |
195      | p2     | Sham     | NULL       |   30 | Pune   |
196      | p3     | Aarya    | 2023-01-20 |   35 | Mumbai |
197      | p4     | Shivam   | 2023-04-10 |   40 | Nashik |
198      | p5     | Nupur    | 2022-08-15 |   16 | Nashik |
199      +--------+----------+------------+------+--------+
200      5 rows in set (0.00 sec)
201
202      mysql> select * from Treats;
203      +--------+--------+------------+--------+
204      | doc_id | pat_id | disease    | fees   |
205      +--------+--------+------------+--------+
206      | d1     | p1     | Dengue     |  10000 |
207      | d1     | p2     | Corona     |  20000 |
208      | d2     | p3     | Nemonia    |  40000 |
209      | d4     | p4     | Cancer     | 100000 |
210      | d3     | p5     | Cancer     | 100000 |
211      | d6     | NULL   | Blockage   | 200000 |
212      | d5     | p1     | Root Canal |  20000 |
213      +--------+--------+------------+--------+
214      7 rows in set (0.00 sec)
215
216   9.Remove all the reacords of Dr.Suhas.
217
218      mysql> delete from Doctors where doc_name='Dr.Suhas';
219      Query OK, 1 row affected (0.05 sec)
220
221      mysql> select * from Treats;
222      +--------+--------+------------+--------+
223      | doc_id | pat_id | disease    | fees   |
224      +--------+--------+------------+--------+
225      | d2     | p3     | Nemonia    |  40000 |
226      | d4     | p4     | Cancer     | 100000 |
227      | d3     | p5     | Cancer     | 100000 |
228      | d6     | NULL   | Blockage   | 200000 |
229      | d5     | p1     | Root Canal |  20000 |
230      +--------+--------+------------+--------+
231      5 rows in set (0.00 sec)
232
233      mysql> select * from Doctors;
234      +--------+------------+---------------+-------+------------+----------+--------+
235      | doc_id | doc_name   | qualification | exp   | dept       | city     | salary |
236      +--------+------------+---------------+-------+------------+----------+--------+
237      | d2     | Dr.Shubham | MBBS          | 12.50 | OPD        | Baramati | 200000 |
238      | d3     | Dr.Abhinav | Oncologist    | 22.00 | Cancer     | Nagar    | 300000 |
239      | d4     | Dr.Vinit   | Oncologist    | 22.50 | Cancer     | Mumbai   | 300000 |
240      | d5     | Dr.Vijay   | BDS           |  5.00 | Dentist    | Pune     | 200000 |
241      | d6     | Dr.Nirmala | Cardiologist  | 30.00 | Cardiology | Satara   | 500000 |
242      +--------+------------+---------------+-------+------------+----------+--------+
243      5 rows in set (0.00 sec)
244
245   10.Change the qulification of Dr.Shubham from MBBS to MD.
246
247      mysql> update Doctors set qualification='MD' where doc_name='Dr.Shubham' and
         qualification='MBBS';
248      Query OK, 1 row affected (0.01 sec)
249      Rows matched: 1  Changed: 1  Warnings: 0
250
251      mysql> select * from Doctors;
252      +--------+------------+---------------+-------+------------+----------+--------+
253      | doc_id | doc_name   | qualification | exp   | dept       | city     | salary |
254      +--------+------------+---------------+-------+------------+----------+--------+
255      | d2     | Dr.Shubham | MD            | 12.50 | OPD        | Baramati | 200000 |
256      | d3     | Dr.Abhinav | Oncologist    | 22.00 | Cancer     | Nagar    | 300000 |
257      | d4     | Dr.Vinit   | Oncologist    | 22.50 | Cancer     | Mumbai   | 300000 |
```

```
258         | d5       | Dr.Vijay    | BDS           |  5.00 | Dentist     | Pune     | 210000 |
259         | d6       | Dr.Nirmala  | Cardiologist  | 30.00 | Cardiology | Satara   | 550000 |
260         | d7       | Dr.Abhishek | MBBS          |  2.00 | Orthopedic | Pune     |  10000 |
261         +--------+------------+--------------+-------+-----------+---------+--------+
262         6 rows in set (0.00 sec)
263
264   11.Give 5% salary rise to the Dentist and 10% to Cardiologist in a single query.
265
266         mysql> update Doctors set salary=case when dept='Dentist' then salary+(salary*0.05)
              when dept='Cardiology' then salary+(salary*0.1) else salary end;
267         Query OK, 2 rows affected (0.00 sec)
268         Rows matched: 5  Changed: 2  Warnings: 0
269
270         mysql> select * from Doctors;
271         +--------+------------+--------------+-------+-----------+---------+--------+
272         | doc_id | doc_name   | qualification | exp   | dept       | city     | salary |
273         +--------+------------+--------------+-------+-----------+---------+--------+
274         | d2       | Dr.Shubham | MD            | 12.50 | OPD        | Baramati | 200000 |
275         | d3       | Dr.Abhinav | Oncologist    | 22.00 | Cancer     | Nagar    | 300000 |
276         | d4       | Dr.Vinit   | Oncologist    | 22.50 | Cancer     | Mumbai   | 300000 |
277         | d5       | Dr.Vijay   | BDS           |  5.00 | Dentist    | Pune     | 210000 |
278         | d6       | Dr.Nirmala | Cardiologist  | 30.00 | Cardiology | Satara   | 550000 |
279         +--------+------------+--------------+-------+-----------+---------+--------+
280         5 rows in set (0.00 sec)
281
282   12.Display Department wise total salary of Doctors.
283
284         mysql> select distinct dept,sum(salary) as Total_Salary from Doctors group by(dept);
285         +-----------+--------------+
286         | dept       | Total_Salary |
287         +-----------+--------------+
288         | OPD        |       200000 |
289         | Cancer     |       600000 |
290         | Dentist    |       210000 |
291         | Cardiology |       550000 |
292         +-----------+--------------+
293         4 rows in set (0.01 sec)
294
295   13.Find the Department which has highest average salary.
296
297         mysql> select dept,avg(salary) from Doctors group by(dept) having avg(salary) >=All
              (select avg(salary) from Doctors group by(dept));
298         +-----------+--------------+
299         | dept       | avg(salary)  |
300         +-----------+--------------+
301         | Cardiology | 550000.0000  |
302         +-----------+--------------+
303         1 row in set (0.00 sec)
304
305   14.Find the average salary of Doctors in Dentist Department.
306
307         mysql> select distinct dept,avg(salary) as Average_Salary from Doctors where
              dept='Dentist';
308         +---------+----------------+
309         | dept     | Average_Salary |
310         +---------+----------------+
311         | Dentist  |    210000.0000 |
312         +---------+----------------+
313         1 row in set (0.04 sec)
314
315   15.Find the Department where average salary of Doctors is more than 50000.
316
317         mysql> insert into Doctors
              values('d7','Dr.Abhishek','MBBS','2.0','Orthopedic','Pune',10000);
318         Query OK, 1 row affected (0.01 sec)
319
320         mysql> select *from Doctors;
321         +--------+------------+--------------+-------+-----------+---------+--------+
322         | doc_id | doc_name    | qualification | exp   | dept        | city     | salary |
```

```
323         +--------+------------+---------------+-------+------------+----------+--------+
324         | d2     | Dr.Shubham | MD            | 12.50 | OPD        | Baramati | 200000 |
325         | d3     | Dr.Abhinav | Oncologist    | 22.00 | Cancer     | Nagar    | 300000 |
326         | d4     | Dr.Vinit   | Oncologist    | 22.50 | Cancer     | Mumbai   | 300000 |
327         | d5     | Dr.Vijay   | BDS           |  5.00 | Dentist    | Pune     | 210000 |
328         | d6     | Dr.Nirmala | Cardiologist  | 30.00 | Cardiology | Satara   | 550000 |
329         | d7     | Dr.Abhishek| MBBS          |  2.00 | Orthopedic | Pune     |  10000 |
330         +--------+------------+---------------+-------+------------+----------+--------+
331         6 rows in set (0.00 sec)
332
333         mysql> select dept,avg(salary) as Average_Salary from Doctors group by(dept) having
            avg(salary)>50000  ;
334         +------------+----------------+
335         | dept       | Average_Salary |
336         +------------+----------------+
337         | OPD        |    200000.0000 |
338         | Cancer     |    300000.0000 |
339         | Dentist    |    210000.0000 |
340         | Cardiology |    550000.0000 |
341         +------------+----------------+
342         4 rows in set (0.00 sec)
343
344  16.Find how many Doctors work in the Hospital.
345
346         mysql> select count(doc_id) from Doctors;
347         +---------------+
348         | count(doc_id) |
349         +---------------+
350         |             6 |
351         +---------------+
352         1 row in set (0.01 sec)
353
354  17.Find out how many Doctors actually treated a patient.
355
356         mysql> select pat_name AS Patient_Name,doc_name AS Treating_Doctor_name from
            Patient,Doctors,Treats where Treats.doc_id=Doctors.doc_id and
            Patient.pat_id=Treats.pat_id;
357         +--------------+----------------------+
358         | Patient_Name | Treating_Doctor_name |
359         +--------------+----------------------+
360         | Ram          | Dr.Vijay             |
361         | Aarya        | Dr.Shubham           |
362         | Shivam       | Dr.Vinit             |
363         | Shivam       | Dr.Vinit             |
364         | Nupur        | Dr.Abhinav           |
365         +--------------+----------------------+
366         5 rows in set (0.00 sec)
367
368         mysql> select count(distinct Doctors.doc_id) AS Treating_Doctor_count from
            Patient,Doctors,Treats where Treats.doc_id=Doctors.doc_id and
            Patient.pat_id=Treats.pat_id;
369         +-----------------------+
370         | Treating_Doctor_count |
371         +-----------------------+
372         |                     4 |
373         +-----------------------+
374         1 row in set (0.00 sec)
375
376  18.Find the list of Cities in which either Doctor or Patient lives.
377
378         mysql> select city from Doctors UNION select city from Patient;
379         +----------+
380         | city     |
381         +----------+
382         | Baramati |
383         | Nagar    |
384         | Mumbai   |
385         | Pune     |
386         | Satara   |
```

```
387    | Nashik    |
388    +----------+
389    6 rows in set (0.01 sec)
390
391  19 A.List the cities where both lives.
392
393     mysql> select distinct city from Doctors where city IN (select city from Patient);
394     +--------+
395     | city   |
396     +--------+
397     | Nagar  |
398     | Mumbai |
399     | Pune   |
400     +--------+
401     3 rows in set (0.00 sec)
402
403  19 B.List D_name,P_name,cities names if they live in same city.
404
405     mysql> select pat_name,doc_name,Doctors.city from Doctors INNER JOIN Patient on
        Doctors.city=Patient.city;
406     +----------+-------------+--------+
407     | pat_name | doc_name    | city   |
408     +----------+-------------+--------+
409     | Ram      | Dr.Abhinav  | Nagar  |
410     | Aarya    | Dr.Vinit    | Mumbai |
411     | Sham     | Dr.Vijay    | Pune   |
412     | Sham     | Dr.Abhishek | Pune   |
413     +----------+-------------+--------+
414     4 rows in set (0.01 sec)
415
416  20.Find the Doctors who have not treated any Patient.
417
418     mysql> select doc_id,doc_name from Doctors where doc_id NOT IN (select doc_id from
        Treats);
419     +--------+-------------+
420     | doc_id | doc_name    |
421     +--------+-------------+
422     | d7     | Dr.Abhishek |
423     | d8     | Dr.Shubham  |
424     +--------+-------------+
425     2 rows in set (0.00 sec)
426
427  21 A.Display the name of Doctors and Patient as a single column.
428
429     mysql> select doc_name As Name from Doctors UNION select pat_name from Patient;
430     +-------------+
431     | Name        |
432     +-------------+
433     | Dr.Shubham  |
434     | Dr.Abhinav  |
435     | Dr.Vinit    |
436     | Dr.Vijay    |
437     | Dr.Nirmala  |
438     | Dr.Abhishek |
439     | Ram         |
440     | Sham        |
441     | Aarya       |
442     | Shivam      |
443     | Nupur       |
444     +-------------+
445     11 rows in set (0.00 sec)
446
447  21 B.Let Duplicate name appear many times.
448
449     mysql> select doc_name As Name from Doctors UNION ALL select pat_name from Patient;
450     +-------------+
451     | Name        |
452     +-------------+
453     | Dr.Shubham  |
```

```
454         | Dr.Abhinav  |
455         | Dr.Vinit    |
456         | Dr.Vijay    |
457         | Dr.Nirmala  |
458         | Dr.Abhishek |
459         | Dr.Shubham  |
460         | Ram         |
461         | Sham        |
462         | Aarya       |
463         | Shivam      |
464         | Nupur       |
465         +-------------+
466         12 rows in set (0.00 sec)
467
468   22. What's the total money collected so far from treatment of patients.
469
470         mysql> select sum(fees) as Total_Fees from Treats;
471         +------------+
472         | Total_Fees |
473         +------------+
474         |     460000 |
475         +------------+
476         1 row in set (0.00 sec)
477
478   23.Find the average salary of each Department.
479
480         mysql> select dept,avg(salary) AS Average_Salary from Doctors group by(dept);
481         +------------+----------------+
482         | dept       | Average_Salary |
483         +------------+----------------+
484         | OPD        |    200000.0000 |
485         | Cancer     |    300000.0000 |
486         | Dentist    |    210000.0000 |
487         | Cardiology |    550000.0000 |
488         | Orthopedic |     10000.0000 |
489         +------------+----------------+
490         5 rows in set (0.00 sec)
491
492   24.Display Patient name which does not have date of addmission.
493
494         mysql> select *from Patient where date_adm is NULL;
495         +--------+----------+----------+------+-------+
496         | pat_id | pat_name | date_adm | age  | city  |
497         +--------+----------+----------+------+-------+
498         | p1     | Ram      | NULL     |   25 | Nagar |
499         | p2     | Sham     | NULL     |   30 | Pune  |
500         +--------+----------+----------+------+-------+
501         2 rows in set (0.00 sec)
502
503
504
505
```