

Tasks

1) Explain what the following terms mean in your own words

a) **Join**: is to connect two or more tables

b) **Inner Join**: for example if we have two tables for finding inner join we must look to matching information for both tables.

c) **Left Join**: for example we have two tables A and B , for finding Left Join we must take all information of table A and matching information from table B.

d) **Right Join**: for example we have two tables C and D , for finding Right Join we must take all information of table D and matching information of table C.

e) **Full Join**: is all information in both or more tables.

2) Select rows in student_info table whose names start with 'l'

The screenshot shows the DBeaver 21.3.5 interface. The left sidebar displays the database structure for 'dataanalyticsbootcamp', including tables like 'course_info', 'links', 'links_small', 'ratings', 'ratings_small', and 'student_info'. The 'student_info' table is selected, showing columns: rollno (int4), name (varchar), address (varchar), phone (varchar), and age (int4). The main window displays a SQL query: `select * from lecture.student_info where name like 'l%'`. The results are shown in a grid with columns: rollno, name, address, phone, age, and Value. The first row shows a student with rollno 123, name 'leyla', address 'seattle', phone '3247234913', and age 2. The status bar at the bottom indicates '1 row(s) fetched - 58ms (1ms fetch), on Mar 14, 23:10:40'.

rollno	name	address	phone	age	Value
123	leyla	seattle	3247234913	2	2

3) Join ratings_small and links_small table on column movieid

DBeaver 21.3.5 - <dataanalyticsbootcamp> Script-10

Database Navigator: dataanalyticsbootcamp - database-1.c71973aoi8cl.us-east-1.amazonaws.com

- dataanalyticsbootcamp
 - Schemas
 - lecture
 - Tables
 - course_info (8K)
 - links (2M)
 - links_small (432K)
 - Columns
 - movieid (int4)
 - imdbid (int4)
 - tmbid (int4)
 - Constraints
 - Foreign Keys
 - Indexes
 - Dependencies
 - References
 - Partitions
 - Triggers
 - Rules
 - ratings (1.1G)
 - ratings_small (4.3M)

Project - General

Name: DataSource

SQL Editor:

```
--select * from lecture.student_info where name like '%'
```

```
select *  
from lecture.ratings_small  
join lecture.links_small on lecture.ratings_small.movieid= lecture.links_small.movieid;
```

Results:

	123 userid	123 movieid	123 rating	123 timestamp	123 movieid
1	1	31	2.5	1,260,759,144	31
2	1	1,029	3	1,260,759,179	1,029
3	1	1,061	3	1,260,759,182	1,061
4	1	1,129	2	1,260,759,185	1,129
5	1	1,172	4	1,260,759,205	1,172
6	1	1,263	2	1,260,759,151	1,263
7	1	1,287	2	1,260,759,187	1,287
8	1	1,293	2	1,260,759,148	1,293
9	1	1,339	3.5	1,260,759,125	1,339
10	1	1,343	2	1,260,759,131	1,343

200 row(s) fetched - 56ms (13ms fetch), on Mar 14, 23:35:40

4) Inner Join ratings_small and links_small table on column movieid

DBeaver 21.3.5 - <dataanalyticsbootcamp> Script-10

Database Navigator: dataanalyticsbootcamp - database-1.c71973aoi8cl.us-east-1.amazonaws.com

- dataanalyticsbootcamp
 - Schemas
 - lecture
 - Tables
 - course_info (8K)
 - links (2M)
 - links_small (432K)
 - Columns
 - movieid (int4)
 - imdbid (int4)
 - tmbid (int4)
 - Constraints
 - Foreign Keys
 - Indexes
 - Dependencies
 - References
 - Partitions
 - Triggers
 - Rules
 - ratings (1.1G)
 - ratings_small (4.3M)

Project - General

Name: DataSource

SQL Editor:

```
--select * from lecture.student_info where name like '%'
```

```
--select *  
--from lecture.ratings_small  
--join lecture.links_small on lecture.ratings_small.movieid= lecture.links_small.movieid;  
select *  
from lecture.ratings_small  
inner join lecture.links_small on lecture.ratings_small.movieid =lecture.links_small.movieid;
```

Results:

	123 userid	123 movieid	123 rating	123 timestamp	123 movieid
1	1	31	2.5	1,260,759,144	31
2	1	1,029	3	1,260,759,179	1,029
3	1	1,061	3	1,260,759,182	1,061
4	1	1,129	2	1,260,759,185	1,129
5	1	1,172	4	1,260,759,205	1,172
6	1	1,263	2	1,260,759,151	1,263
7	1	1,287	2	1,260,759,187	1,287
8	1	1,293	2	1,260,759,148	1,293
9	1	1,339	3.5	1,260,759,125	1,339
10	1	1,343	2	1,260,759,131	1,343

200 row(s) fetched - 107ms (14ms fetch), on Mar 14, 23:39:56

5) Left Join ratings_small and links_small table on column movieid

The screenshot shows the DBeaver 21.3.5 interface. On the left, the Database Navigator shows the 'dataanalyticsbootcamp' database with tables 'course_info', 'links', 'links_small', and 'ratings_small'. The 'ratings_small' table is selected. The SQL editor contains the following query:

```

--select * from lecture.student_info where name like 'l%'
--select *
--from lecture.ratings_small
--join lecture.links_small on lecture.ratings_small.movieid= lecture.links_small.movieid;
--select *
--from lecture.ratings_small
--inner join lecture.links_small on lecture.ratings_small.movieid =lecture.links_small.movieid;
select *
from lecture.ratings_small
left join lecture.links_small on lecture.ratings_small.movieid =lecture.links_small.movieid;

```

The results are displayed in a grid view with the following columns: 123 userid, 123 movieid, 123 rating, 123 timestamp, 123 im, and Value. The results show 10 rows of data.

123 userid	123 movieid	123 rating	123 timestamp	123 im	Value
1	31	2.5	1,260,759,144	31	1
2	1,029	3	1,260,759,179	1,029	
3	1,061	3	1,260,759,182	1,061	
4	1,129	2	1,260,759,185	1,129	
5	1,172	4	1,260,759,205	1,172	
6	1,263	2	1,260,759,151	1,263	
7	1,287	2	1,260,759,187	1,287	
8	1,293	2	1,260,759,148	1,293	
9	1,339	3.5	1,260,759,125	1,339	
10	1,343	2	1,260,759,131	1,343	

6) Right Join ratings_small and links_small table on column movieid

a.

The screenshot shows the DBeaver 21.3.5 interface. On the left, the Database Navigator shows the 'dataanalyticsbootcamp' database with tables 'course_info', 'links', 'links_small', and 'ratings_small'. The 'links_small' table is selected. The SQL editor contains the following query:

```

--select * from lecture.student_info where name like 'l%'
--select *
--from lecture.ratings_small
--join lecture.links_small on lecture.ratings_small.movieid= lecture.links_small.movieid;
--select *
--from lecture.ratings_small
--inner join lecture.links_small on lecture.ratings_small.movieid =lecture.links_small.movieid;
--select *
--from lecture.ratings_small
--left join lecture.links_small on lecture.ratings_small.movieid =lecture.links_small.movieid;
select *
from lecture.links_small
right join lecture.ratings_small on lecture.links_small.movieid = lecture.ratings_small.movieid;

```

The results are displayed in a grid view with the following columns: 123 movieid, 123 imdbid, 123 tmdbid, 123 userid, 123 movieid, and 123 rating. The results show 10 rows of data.

123 movieid	123 imdbid	123 tmdbid	123 userid	123 movieid	123 rating
31	112,792	9,909	1	31	2.5
1,029	33,563	11,360	1	1,029	3
1,061	117,665	819	1	1,061	3
1,129	82,340	1,103	1	1,129	2
1,172	95,765	11,216	1	1,172	4
1,263	77,416	11,778	1	1,263	2
1,287	52,618	665	1	1,287	2
1,293	83,987	783	1	1,293	2
1,339	103,874	6,114	1	1,339	3.5
1,343	101,540	1,598	1	1,343	2

b.

DBeaver 21.3.5 - <dataanalyticsbootcamp> Script-10

Database Navigator: dataanalyticsbootcamp - database-1.c71973aoi8cl.us-east-1

Schema: lecture

Tables: course_info (8K), links (2M), links_small (432K)

Columns: movieid (int4), imdbid (int4), tmdbid (int4)

Constraints: Foreign Keys, Indexes, Dependencies, References, Partitions, Triggers, Rules

Project - General: Name, DataSource

SQL Editor:

```
--select * from lecture.student_info where name like 'l%'
--select *
--from lecture.ratings_small
--join lecture.links_small on lecture.ratings_small.movieid= lecture.links_small.movieid;
--select *
--from lecture.ratings_small
--inner join lecture.links_small on lecture.ratings_small.movieid =lecture.links_small.movieid;
--select *
--from lecture.ratings_small
--left join lecture.links_small on lecture.ratings_small.movieid =lecture.links_small.movieid;
select *
from lecture.ratings_small
right join lecture.links_small on lecture.ratings_small.movieid = lecture.links_small.movieid;
```

Results 19 | Results 20 | ratings_small(+) 21 | links_small(+) 22 | ratings_small(+) 23 | 18

SQL Editor: select * from lecture.ratings_small

Grid:

123 user_id	123 movieid	123 rating	123 timestamp	123 movieid	123 im	Value
2	1	1,029	3	1,260,759,179	1,029	1
3	1	1,061	3	1,260,759,182	1,061	
4	1	1,129	2	1,260,759,185	1,129	
5	1	1,172	4	1,260,759,205	1,172	
6	1	1,263	2	1,260,759,151	1,263	
7	1	1,287	2	1,260,759,187	1,287	
8	1	1,293	2	1,260,759,148	1,293	
9	1	1,339	3.5	1,260,759,125	1,339	
10	1	1,343	2	1,260,759,131	1,343	
11	1	1,371	2.5	1,260,759,135	1,371	

200 row(s) fetched - 164ms, on Mar 14, 23:57:41

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7) Full Join ratings_small and links_small table on column movieid

DBeaver 21.3.5 - <dataanalyticsbootcamp> Script-10

Database Navigator: dataanalyticsbootcamp - database-1.c71973aoi8cl.us-east-1

Schema: lecture

Tables: course_info (8K), links (2M), links_small (432K)

Columns: movieid (int4), imdbid (int4), tmdbid (int4)

Constraints: Foreign Keys, Indexes, Dependencies, References, Partitions, Triggers, Rules

Project - General: Name, DataSource

SQL Editor:

```
--select * from lecture.student_info where name like 'l%'
--select *
--from lecture.ratings_small
--join lecture.links_small on lecture.ratings_small.movieid= lecture.links_small.movieid;
--select *
--from lecture.ratings_small
--inner join lecture.links_small on lecture.ratings_small.movieid =lecture.links_small.movieid;
--select *
--from lecture.ratings_small
--left join lecture.links_small on lecture.ratings_small.movieid =lecture.links_small.movieid;
--select *
--from lecture.ratings_small
--right join lecture.links_small on lecture.ratings_small.movieid = lecture.links_small.movieid;
select *
from lecture.ratings_small
full join lecture.links_small on lecture.ratings_small.movieid= lecture.links_small.movieid;
```

ratings_small(+) 21 | links_small(+) 22 | ratings_small(+) 23 | ratings_small(+) 24 | ratings_small(+) 25 | 20

SQL Editor: select * from lecture.ratings_small

Grid:

123 user_id	123 movieid	123 rating	123 timestamp	123 movieid	123 im	Value
1	1	31	2.5	1,260,759,144	31	1
2	1	1,029	3	1,260,759,179	1,029	
3	1	1,061	3	1,260,759,182	1,061	
4	1	1,129	2	1,260,759,185	1,129	
5	1	1,172	4	1,260,759,205	1,172	
6	1	1,263	2	1,260,759,151	1,263	
7	1	1,287	2	1,260,759,187	1,287	
8	1	1,293	2	1,260,759,148	1,293	
9	1	1,339	3.5	1,260,759,125	1,339	
10	1	1,343	2	1,260,759,131	1,343	

200 row(s) fetched - 53ms (1ms fetch), on Mar 15, 00:00:22

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