

```

select * from data_science_team;
select * from emp_record_table;
select * from proj_table;
select emp_id,first_name,last_name,gender,dept from emp_record_table;
select EMP_ID,FIRST_NAME, LAST_NAME, GENDER, DEPT, EMP_RATING from emp_record_table where
EMP_RATING < 2;
select EMP_ID,FIRST_NAME, LAST_NAME, GENDER, DEPT, EMP_RATING from emp_record_table where
EMP_RATING > 4;
select EMP_ID,FIRST_NAME, LAST_NAME, GENDER, DEPT, EMP_RATING from emp_record_table where
EMP_RATING between 2 and 4;
select concat(FIRST_NAME,' ',LAST_NAME) as "NAME" from emp_record_table where dept =
'finance' ;
select m.EMP_ID,m. first_name, m. last_name,m. role,COUNT(e.EMP_ID) as "EMP_COUNT"
from emp_record_table m
INNER JOIN emp_record_table e
ON m.EMP_ID = e.MANAGER_ID
GROUP BY m.EMP_ID,m. first_name,m. last_name,m. role
order by m.EMP_ID;
SELECT EMP_ID,FIRST_NAME, LAST_NAME, DEPT FROM emp_record_table
WHERE DEPT = 'HEALTHCARE'
UNION
SELECT EMP_ID,FIRST_NAME, LAST_NAME, DEPT FROM emp_record_table
WHERE DEPT = 'FINANCE'
ORDER BY DEPT,EMP_ID;
SELECT m.EMP_ID,m. FIRST_NAME, m. LAST_NAME, m. ROLE, m. DEPT, m. EMP_RATING, max(m. EMP_RATING)
OVER(PARTITION BY m. DEPT)
AS "MAX_DEPT_RATING"
FROM emp_record_table m
ORDER BY DEPT;
SELECT ROLE, MAX(SALARY) as "MAX_SALARY", MIN(SALARY) as MIN_SALARY
FROM emp_record_table
WHERE ROLE IN('PRESIDENT','LEAD DATA SCIENTIST','SENIOR DATA
SCIENTIST','MANAGER','ASSOCIATE DATA SCIENTIST','JUNIOR DATA SCIENTIST')
GROUP BY ROLE;
SELECT EMP_ID,FIRST_NAME, LAST_NAME, EXP,
RANK() OVER(ORDER BY EXP) EXP_RANK
FROM emp_record_table;
select * from demo;
go
CREATE FUNCTION check_job_role1(@exp integer)
RETURNS VARCHAR(40) AS
BEGIN
DECLARE @chck VARCHAR(40);
SET @chck = 'same';
if (@exp < 2) SET @chck = 'JUNIOR DATA SCIENTIST';
if (@exp >=2) AND (@exp < 5) SET @chck = 'ASSOCIATE DATA SCIENTIST';
if (@exp >=5) AND (@exp < 10) SET @chck = 'SENIOR DATA SCIENTIST';
if (@exp >= 10) AND (@exp < 12) SET @chck = 'LEAD DATA SCIENTIST';
if (@exp >= 12) SET @chck = 'MANAGER';

```

```

RETURN @chk;
END
go
select *, dbo.check_job_role(10) as "role" from data_science_team;
select *,    dbo.check_job_role(5) as "role" from data_science_team;
SELECT EMP_ID, FIRST_NAME, LAST_NAME, EXP FROM emp_record_table
WHERE EMP_ID IN(SELECT manager_id FROM emp_record_table);
CREATE Index ix_first_name
ON emp_record_table (FIRST_NAME);
SELECT * FROM emp_record_table
WHERE FIRST_NAME='Eric';
select  concat(first_name,' ',last_name)as 'Name' , ( salary *0.05)* EMP_RATING as
bonus
from emp_record_table;
SELECT EMP_ID, FIRST_NAME, LAST_NAME, SALARY, COUNTRY, CONTINENT,
AVG(salary)OVER(PARTITION BY COUNTRY)AVG_salary_IN_COUNTRY,
AVG(salary)OVER(PARTITION BY CONTINENT)AVG_salary_IN_CONTINENT,
COUNT(*)OVER(PARTITION BY COUNTRY)COUNT_IN_COUNTRY,
COUNT(*)OVER(PARTITION BY CONTINENT)COUNT_IN_CONTINENT
FROM emp_record_table;

```

```
use employee;
create procedure experinece
as
begin
    select emp_id, first_name, last_name, exp from emp_record_table where exp>3;
end

experinece
```

EMP_ID
FIRST_NAME
LAST_NAME
GENDER
ROLE
DEPT
EXP
CONTINENT

E005
Eric
Hoffman
M
LEAD DATA SCIENTIST
FINANCE
11
NORTH AMERICA

E010
William
Butler
M
LEAD DATA SCIENTIST
AUTOMOTIVE
12
EUROPE
E052
Dianna
Wilson
F
SENIOR DATA SCIENTIST

HEALTHCARE
6 CANADA
NORTH AMERICA
E057
Dorothy
Wilson
F
SENIOR DATA SCIENTIST
HEALTHCARE
9 USA
NORTH AMERICA
E204
Karene
Nowak
F
SENIOR DATA SCIENTIST
AUTOMOTIVE
8 GERMANY
EUROPE
E245
Nian
Zhen
M
SENIOR DATA SCIENTIST
RETAIL
6 CHINA
ASIA
E260
Roy
Collins
M
SENIOR DATA SCIENTIST
RETAIL
7 INDIA
ASIA
E403
Steve
Hoffman
M
ASSOCIATE DATA SCIENTIST
FINANCE
4 USA
NORTH AMERICA
E478
David
Smith
M
ASSOCIATE DATA SCIENTIST
RETAIL
3 COLOMBIA
SOUTH AMERICA
E505
Chad
Wilson
M
ASSOCIATE DATA SCIENTIST
HEALTHCARE
5 CANADA

E001			
Arthur			
Black			
M			
PRESIDENT			
ALL			
20	USA		
NORTH AMERICA			
16500	5		NULL
NULL			
E005			
Eric			
Hoffman			
M			
LEAD DATA SCIENTIST			
FINANCE			
11	USA		
NORTH AMERICA			
8500	3		E103
P105			
E010			
William			
Butler			
M			
LEAD DATA SCIENTIST			
AUTOMOTIVE			
12	FRANCE		
EUROPE			
9000	2		E428
P204			
E052			
Dianna			
Wilson			
F			
SENIOR DATA SCIENTIST			
HEALTHCARE			
6	CANADA		
NORTH AMERICA			
5500	5		E083
P103			
E057			
Dorothy			

Wilson			
F			
SENIOR DATA SCIENTIST			
HEALTHCARE			
9	USA		
NORTH AMERICA			
7700	1		E083
P302			
E083			
Patrick			
Voltz			
M			
MANAGER			
HEALTHCARE			
15	USA		
NORTH AMERICA			
9500	5		E001
NULL			
E103			
Emily			
Grove			
F			
MANAGER			
FINANCE			
14	CANADA		
NORTH AMERICA			
10500	4		E001
NULL			
E204			
Karene			
Nowak			
F			
SENIOR DATA SCIENTIST			
AUTOMOTIVE			
8	GERMANY		
EUROPE			
7500	5		E428
P204			
E245			
Nian			
Zhen			
M			
SENIOR DATA SCIENTIST			
RETAIL			
6	CHINA		
ASIA			
6500	2		E583
P109			
E260			
Roy			
Collins			
M			
SENIOR DATA SCIENTIST			
RETAIL			
7	INDIA		
ASIA			
7000	3		E583
NA			

E403		
Steve		
Hoffman		
M		
ASSOCIATE DATA SCIENTIST		
FINANCE		
4	USA	
NORTH AMERICA		
5000	3	E103
P105		
E428		
Pete		
Allen		
M		
MANAGER		
AUTOMOTIVE		
14	GERMANY	
EUROPE		
11000	4	E001
NULL		
E478		
David		
Smith		
M		
ASSOCIATE DATA SCIENTIST		
RETAIL		
3	COLOMBIA	
SOUTH AMERICA		
4000	4	E583
P109		
E505		
Chad		
Wilson		
M		
ASSOCIATE DATA SCIENTIST		
HEALTHCARE		
5	CANADA	
NORTH AMERICA		
5000	2	E083
P103		
E532		
Claire		
Brennan		
F		
ASSOCIATE DATA SCIENTIST		
AUTOMOTIVE		
3	GERMANY	
EUROPE		
4300	1	E428
P204		
E583		
Janet		
Hale		
F		
MANAGER		
RETAIL		
14	COLOMBIA	
SOUTH AMERICA		


```
P103
Drug Discovery
HEALTHCARE
2021-06-04 00:00:00.000 6/20/2021
Q1
DONE
P105
Fraud Detection
FINANCE
2021-11-04 00:00:00.000 6/25/2021
Q1
DONE
P109
Market Basket Analysis
RETAIL
2021-12-04 00:00:00.000 6/30/2021
Q1
DELAYED
P204
Supply Chain Management
AUTOMOTIVE
NULL 9/28/2021
Q2
WIP
P302
Early Detection of Lung Cancer
HEALTHCARE
2021-08-10 00:00:00.000 12/18/2021
Q3
YTS
P406
Customer Sentiment Analysis
RETAIL
2021-09-07 00:00:00.000 9/24/2021
Q2
WIP
```

```
(6 rows affected)
```

```
emp_id  
first_name  
last_name  
gender  
dept
```


E001
Arthur
Black
M
ALL
E005
Eric
Hoffman
M
FINANCE
E010
William
Butler
M
AUTOMOTIVE
E052
Dianna
Wilson
F
HEALTHCARE
E057
Dorothy
Wilson
F
HEALTHCARE
E083
Patrick
Voltz
M
HEALTHCARE
E103
Emily
Grove
F
FINANCE
E204
Karene
Nowak
F
AUTOMOTIVE
E245
Nian
Zhen
M
RETAIL
E260
Roy
Collins
M

RETAIL
E403
Steve
Hoffman
M
FINANCE
E428
Pete
Allen
M
AUTOMOTIVE
E478
David
Smith
M
RETAIL
E505
Chad
Wilson
M
HEALTHCARE
E532
Claire
Brennan
F
AUTOMOTIVE
E583
Janet
Hale
F
RETAIL
E612
Tracy
Norris
F
RETAIL
E620
Katrina
Allen
F
RETAIL
E640
Jenifer
Jhones
F
RETAIL

(19 rows affected)

EMP_ID
FIRST_NAME
LAST_NAME
GENDER
DEPT
EMP_RATING

E057
Dorothy
Wilson
F
HEALTHCARE
1
E532
Claire
Brennan
F
AUTOMOTIVE
1
E620
Katrina
Allen
F
RETAIL
1

```
(3 rows affected)
```

```
EMP_ID
FIRST_NAME
LAST_NAME
GENDER
DEPT
EMP_RATING
```

```
-----  
-----  
E001  
Arthur  
Black  
M  
ALL  
5  
E052  
Dianna  
Wilson  
F  
HEALTHCARE  
5  
E083  
Patrick  
Voltz  
M  
HEALTHCARE  
5  
E204  
Karene  
Nowak  
F  
AUTOMOTIVE  
5
```

(4 rows affected)

```
EMP_ID  
FIRST_NAME  
LAST_NAME  
GENDER  
DEPT  
EMP_RATING
```

```
-----  
-----  
E005  
Eric  
Hoffman  
M  
FINANCE
```

3
E010
William
Butler
M
AUTOMOTIVE
2
E103
Emily
Grove
F
FINANCE
4
E245
Nian
Zhen
M
RETAIL
2
E260
Roy
Collins
M
RETAIL
3
E403
Steve
Hoffman
M
FINANCE
3
E428
Pete
Allen
M
AUTOMOTIVE
4
E478
David
Smith
M
RETAIL
4
E505
Chad
Wilson
M
HEALTHCARE
2
E583
Janet
Hale
F
RETAIL
2
E612
Tracy
Norris

F
RETAIL
4
E640
Jenifer
Jhones
F
RETAIL
4

```
(12 rows affected)
```

NAME

```
EricHoffman
EmilyGrove
SteveHoffman
```

```
(3 rows affected)
```

```
EMP_ID  
first_name  
last_name  
role  
EMP COUNT
```

E001
Arthur
Black
PRESIDENT
5
E083
Patrick
Voltz
MANAGER
3
E103
Emily
Grove
MANAGER
2


```
(7 rows affected)
```

[illegible]

E001	
Arthur	
Black	
PRESIDENT	
ALL	
5	5
E204	
Karene	
Nowak	
SENIOR DATA SCIENTIST	
AUTOMOTIVE	
5	5
E010	
William	
Butler	
LEAD DATA SCIENTIST	
AUTOMOTIVE	
2	5
E428	
Pete	
Allen	
MANAGER	
AUTOMOTIVE	
4	5

E532	
Claire	
Brennan	
ASSOCIATE DATA SCIENTIST	
AUTOMOTIVE	
1	5
E103	
Emily	
Grove	
MANAGER	
FINANCE	
4	4
E403	
Steve	
Hoffman	
ASSOCIATE DATA SCIENTIST	
FINANCE	
3	4
E005	
Eric	
Hoffman	
LEAD DATA SCIENTIST	
FINANCE	
3	4
E052	
Dianna	
Wilson	
SENIOR DATA SCIENTIST	
HEALTHCARE	
5	5
E057	
Dorothy	
Wilson	
SENIOR DATA SCIENTIST	
HEALTHCARE	
1	5
E083	
Patrick	
Voltz	
MANAGER	
HEALTHCARE	
5	5
E505	
Chad	
Wilson	
ASSOCIATE DATA SCIENTIST	
HEALTHCARE	
2	5
E245	
Nian	
Zhen	
SENIOR DATA SCIENTIST	
RETAIL	
2	4
E260	
Roy	
Collins	
SENIOR DATA SCIENTIST	

RETAIL
3 4
E478
David
Smith
ASSOCIATE DATA SCIENTIST
RETAIL
4 4
E583
Janet
Hale
MANAGER
RETAIL
2 4
E612
Tracy
Norris
MANAGER
RETAIL
4 4
E620
Katrina
Allen
JUNIOR DATA SCIENTIST
RETAIL
1 4
E640
Jenifer
Jhones
JUNIOR DATA SCIENTIST
RETAIL
4 4

(19 rows affected)

ROLE
MAX_SALARY MIN_SALARY

ASSOCIATE DATA SCIENTIST
5000 4000
JUNIOR DATA SCIENTIST
3000 2800
LEAD DATA SCIENTIST
9000 8500
MANAGER
11000 8500
PRESIDENT
16500 16500
SENIOR DATA SCIENTIST
7700 5500

(6 rows affected)

EMP_ID

FIRST_NAME

LAST_NAME

EXP

EXP_RANK

E640

Jenifer

Jhones

1

1

E620

Katrina

Allen

2

2

E478

David

Smith

3

3

E532

Claire

Brennan

3

3

E403

Steve

Hoffman

4

5

E505

Chad

Wilson

5

6

E052

Dianna

Wilson

6

7

E245

Nian

Zhen

6

7

E260

Roy

Collins

7

9

E204

Karene

Nowak

8

10

E057

Dorothy

Wilson

Black
USA
16500
E005
Eric
Hoffman
USA
8500
E010
William
Butler
FRANCE
9000
E057
Dorothy
Wilson
USA
7700
E083
Patrick
Voltz
USA
9500
E103
Emily
Grove
CANADA
10500
E204
Karene
Nowak
GERMANY
7500
E245
Nian
Zhen
CHINA
6500
E260
Roy
Collins
INDIA
7000
E428
Pete
Allen
GERMANY
11000
E583
Janet
Hale
COLOMBIA
10000
E612
Tracy
Norris
INDIA
8500

(12 rows affected)

Msg 2714, Level 16, State 3, Procedure check_job_role1, Line 1 [Batch Start Line 34]

There is already an object named 'check_job_role1' in the database.

EMP_ID

FIRST_NAME

LAST_NAME

GENDER

ROLE

DEPT

EXP

COUNTRY

CONTINENT

role

E005

Eric

Hoffman

M

LEAD DATA SCIENTIST

FINANCE

11

USA

NORTH AMERICA

LEAD DATA SCIENTIST

E010

William

Butler

M

LEAD DATA SCIENTIST

AUTOMOTIVE
12 FRANCE
EUROPE
LEAD DATA SCIENTIST
E052
Dianna
Wilson
F
SENIOR DATA SCIENTIST
HEALTHCARE
6 CANADA
NORTH AMERICA
LEAD DATA SCIENTIST
E057
Dorothy
Wilson
F
SENIOR DATA SCIENTIST
HEALTHCARE
9 USA
NORTH AMERICA
LEAD DATA SCIENTIST
E204
Karene
Nowak
F
SENIOR DATA SCIENTIST
AUTOMOTIVE
8 GERMANY
EUROPE
LEAD DATA SCIENTIST
E245
Nian
Zhen
M
SENIOR DATA SCIENTIST
RETAIL
6 CHINA
ASIA
LEAD DATA SCIENTIST
E260
Roy
Collins
M
SENIOR DATA SCIENTIST
RETAIL
7 INDIA
ASIA
LEAD DATA SCIENTIST
E403
Steve
Hoffman
M
ASSOCIATE DATA SCIENTIST
FINANCE
4 USA
NORTH AMERICA
LEAD DATA SCIENTIST

E478		
David		
Smith		
M		
ASSOCIATE DATA SCIENTIST		
RETAIL		
3		COLOMBIA
SOUTH AMERICA		
LEAD DATA SCIENTIST		
E505		
Chad		
Wilson		
M		
ASSOCIATE DATA SCIENTIST		
HEALTHCARE		
5		CANADA
NORTH AMERICA		
LEAD DATA SCIENTIST		
E532		
Claire		
Brennan		
F		
ASSOCIATE DATA SCIENTIST		
AUTOMOTIVE		
3		GERMANY
EUROPE		
LEAD DATA SCIENTIST		
E620		
Katrina		
Allen		
F		
JUNIOR DATA SCIENTIST		
RETAIL		
2		INDIA
ASIA		
LEAD DATA SCIENTIST		
E640		
Jenifer		
Jhones		
F		
JUNIOR DATA SCIENTIST		
RETAIL		
1		COLOMBIA
SOUTH AMERICA		
LEAD DATA SCIENTIST		

(13 rows affected)

EMP_ID		
FIRST_NAME		
LAST_NAME		
GENDER		
ROLE		
DEPT		
EXP		COUNTRY
CONTINENT		
role		

E005		
Eric		
Hoffman		
M		
LEAD DATA SCIENTIST		
FINANCE		
11		USA
NORTH AMERICA		
SENIOR DATA SCIENTIST		
E010		
William		
Butler		
M		
LEAD DATA SCIENTIST		
AUTOMOTIVE		
12		FRANCE
EUROPE		
SENIOR DATA SCIENTIST		
E052		
Dianna		
Wilson		
F		
SENIOR DATA SCIENTIST		
HEALTHCARE		
6		CANADA
NORTH AMERICA		
SENIOR DATA SCIENTIST		
E057		
Dorothy		
Wilson		

F
SENIOR DATA SCIENTIST
HEALTHCARE
9 USA
NORTH AMERICA
SENIOR DATA SCIENTIST
E204
Karene
Nowak
F
SENIOR DATA SCIENTIST
AUTOMOTIVE
8 GERMANY
EUROPE
SENIOR DATA SCIENTIST
E245
Nian
Zhen
M
SENIOR DATA SCIENTIST
RETAIL
6 CHINA
ASIA
SENIOR DATA SCIENTIST
E260
Roy
Collins
M
SENIOR DATA SCIENTIST
RETAIL
7 INDIA
ASIA
SENIOR DATA SCIENTIST
E403
Steve
Hoffman
M
ASSOCIATE DATA SCIENTIST
FINANCE
4 USA
NORTH AMERICA
SENIOR DATA SCIENTIST
E478
David
Smith
M
ASSOCIATE DATA SCIENTIST
RETAIL
3 COLOMBIA
SOUTH AMERICA
SENIOR DATA SCIENTIST
E505
Chad
Wilson
M
ASSOCIATE DATA SCIENTIST
HEALTHCARE
5 CANADA

NORTH AMERICA
SENIOR DATA SCIENTIST
E532
Claire
Brennan
F
ASSOCIATE DATA SCIENTIST
AUTOMOTIVE
3 GERMANY
EUROPE
SENIOR DATA SCIENTIST
E620
Katrina
Allen
F
JUNIOR DATA SCIENTIST
RETAIL
2 INDIA
ASIA
SENIOR DATA SCIENTIST
E640
Jenifer
Jhones
F
JUNIOR DATA SCIENTIST
RETAIL
1 COLOMBIA
SOUTH AMERICA
SENIOR DATA SCIENTIST

(13 rows affected)

EMP_ID
FIRST_NAME
LAST_NAME
EXP

E001
Arthur
Black
20
E083
Patrick
Voltz
15
E103
Emily
Grove

14
E428
Pete
Allen
14
E583
Janet
Hale
14
E612
Tracy
Norris
13

```
(6 rows affected)
```

```
EMP_ID
FIRST_NAME
LAST_NAME
GENDER
ROLE
DEPT
EXP          COUNTRY
CONTINENT
SALARY       EMP_RATING      MANAGER_ID
PROJ_ID
```


E005
Eric
Hoffman
M
LEAD DATA SCIENTIST
FINANCE
11 USA
NORTH AMERICA
8500 3 E103
P105

(1 row affected)

Name
bonus

Arthur Black
4125
Eric Hoffman
1275
William Butler
900
Dianna Wilson
1375
Dorothy Wilson
385
Patrick Voltz
2375
Emily Grove
2100
Karene Nowak
1875
Nian Zhen
650
Roy Collins
1050
Steve Hoffman
750
Pete Allen
2200
David Smith
800
Chad Wilson
500
Claire Brennan
215
Janet Hale
1000
Tracy Norris
1700
Katrina Allen


```
(19 rows affected)
```

[illegible]

E245				
Nian				
Zhen				
6500	CHINA			
ASIA				
6500	6250	1		4
E260				
Roy				
Collins				
7000	INDIA			
ASIA				
6166.666666666667	6250	3		4
E612				
Tracy				
Norris				
8500	INDIA			
ASIA				
6166.666666666667	6250	3		4
E620				
Katrina				
Allen				
3000	INDIA			
ASIA				
6166.666666666667	6250	3		4
E010				
William				

Butler			
9000	FRANCE		
EUROPE			
9000	7950	1	4
E428			
Pete			
Allen			
11000	GERMANY		
EUROPE			
7600	7950	3	4
E532			
Claire			
Brennan			
4300	GERMANY		
EUROPE			
7600	7950	3	4
E204			
Karene			
Nowak			
7500	GERMANY		
EUROPE			
7600	7950	3	4
E403			
Steve			
Hoffman			
5000	USA		
NORTH AMERICA			
9440	8525	5	8
E057			
Dorothy			
Wilson			
7700	USA		
NORTH AMERICA			
9440	8525	5	8
E083			
Patrick			
Voltz			
9500	USA		
NORTH AMERICA			
9440	8525	5	8
E001			
Arthur			
Black			
16500	USA		
NORTH AMERICA			
9440	8525	5	8
E005			
Eric			
Hoffman			
8500	USA		
NORTH AMERICA			
9440	8525	5	8
E052			
Dianna			
Wilson			
5500	CANADA		
NORTH AMERICA			
7000	8525	3	8

E103			
Emily			
Grove			
10500	CANADA		
NORTH AMERICA			
7000	8525	3	8
E505			
Chad			
Wilson			
5000	CANADA		
NORTH AMERICA			
7000	8525	3	8
E583			
Janet			
Hale			
10000	COLOMBIA		
SOUTH AMERICA			
5600	5600	3	3
E478			
David			
Smith			
4000	COLOMBIA		
SOUTH AMERICA			
5600	5600	3	3
E640			
Jenifer			
Jhones			
2800	COLOMBIA		
SOUTH AMERICA			
5600	5600	3	3

(19 rows affected)

Completion time: 2022-11-29T13:00:13.1291852-08:00