LAB CYCLE-I

I. DDL Commands:

1. Create the database named HR and the above tables in the HR database; include the Primary Key Constraint, Referential Integrity Constraints as shown in the schema diagram

TABLES

CREATE TABLE regions(REGIONS_ID NUMBER PRIMARY KEY,REGION_NAME

VARCHAR2(25));

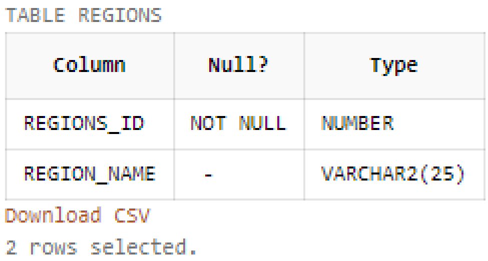


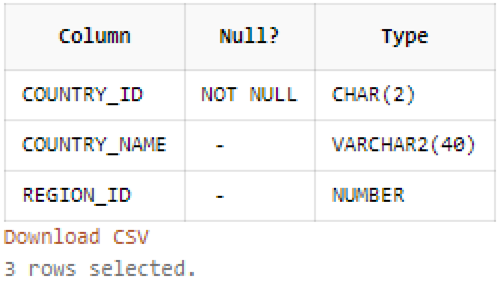
TABLE REGIONS

Column	Null?	Type
REGIONS_ID	NOT NULL	NUMBER
REGION_NAME	-	VARCHAR2(25)

Download CSV

2 rows selected.

CREATE TABLE countries(COUNTRY_ID CHAR(2) PRIMARY KEY,COUNTRY_NAME VARCHAR(40),REGION_ID NUMBER, FOREIGN KEY(REGION_ID) REFERENCES regions(REGIONS_ID));



Column	Null?	Type
COUNTRY_ID	NOT NULL	CHAR(2)
COUNTRY_NAME	-	VARCHAR2(40)
REGION_ID	-	NUMBER

Download CSV

3 rows selected.

CREATE TABLE locations(LOCATION_ID NUMBER PRIMARY KEY,STREET_ADRESS

VARCHAR(25),POSTAL_CODE VARCHAR(12),CITY VARCHAR(30),STATE_PROVINCE VARCHAR(12),COUNTRY_ID CHAR(2),FOREIGN KEY(COUNTRY_ID) REFERENCES countries(COUNTRY_ID));

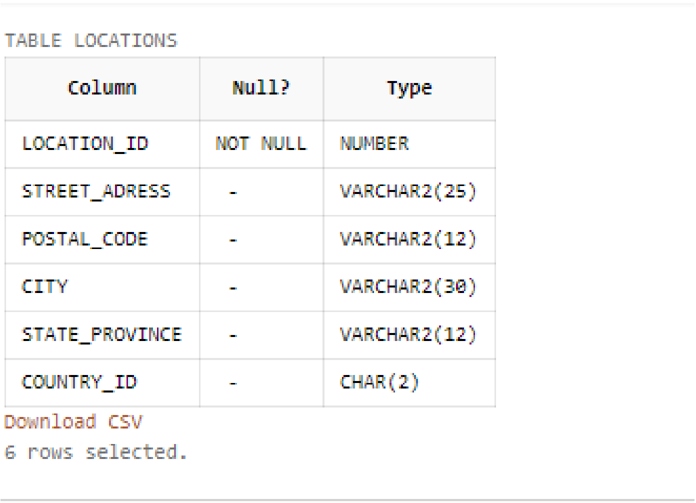


TABLE LOCATIONS

Column	Null?	Type
LOCATION_ID	NOT NULL	NUMBER
STREET_ADRESS	-	VARCHAR2(25)
POSTAL_CODE	-	VARCHAR2(12)
CITY	-	VARCHAR2(30)
STATE_PROVINCE	-	VARCHAR2(12)
COUNTRY_ID	-	CHAR(2)

Download CSV

6 rows selected.

```
CREATE TABLE departments(DEPARTMENT_ID NUMBER PRIMARY

KEY,DEPARTMENT_NAME VARCHAR2(30),MANAGER_ID NUMBER,LOCATION_ID NUMBER,FOREIGN
KEY(LOCATION_ID) REFERENCES locations(LOCATION_ID));
```

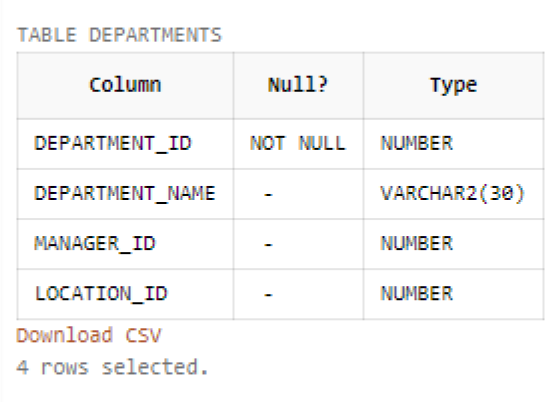


TABLE DEPARTMENTS

Column	Null?	Type
DEPARTMENT_ID	NOT NULL	NUMBER
DEPARTMENT_NAME	-	VARCHAR2(30)
MANAGER_ID	-	NUMBER
LOCATION_ID	-	NUMBER

Download CSV

4 rows selected.

```
Create table jobs(JOB_ID VARCHAR(10) PRIMARY KEY,JOB_TITLE VARCHAR(35),MIN_SALARY
NUMBER,MAX_SALARY NUMBER);
```

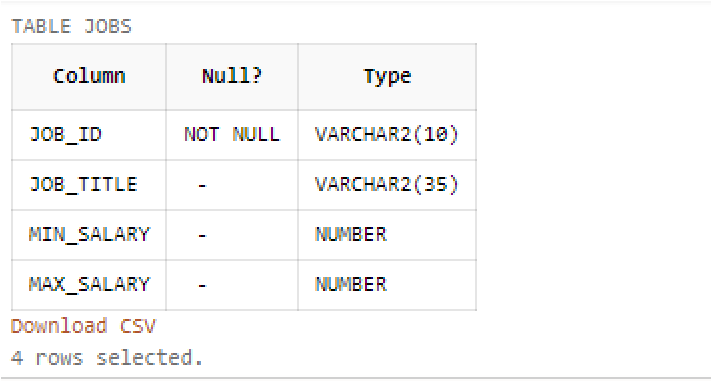


TABLE JOBS

Column	Null?	Type
JOB_ID	NOT NULL	VARCHAR2(10)
JOB_TITLE	-	VARCHAR2(35)
MIN_SALARY	-	NUMBER
MAX_SALARY	-	NUMBER

Download CSV

4 rows selected.

```
CREATE TABLE job_grades(GRADE_LEVEL VARCHAR2(2) PRIMARY KEY,LOWEST_SAL

NUMBER,HIGHEST_SAL NUMBER);
```

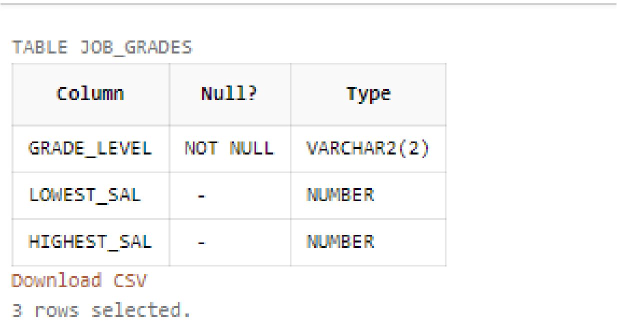


TABLE JOB_GRADES

Column	Null?	Type
GRADE_LEVEL	NOT NULL	VARCHAR2(2)
LOWEST_SAL	-	NUMBER
HIGHEST_SAL	-	NUMBER

Download CSV

3 rows selected.

CREATE TABLE employees(EMPLOYEE_ID NUMBER PRIMARY KEY,FIRST_NAME VARCHAR2(20),LAST_NAME VARCHAR2(25),EMAIL VARCHAR2(25),PHONE_NUMBER VARCHAR2(20),HIRE_DATE DATE,JOB_ID VARCHAR(10),FOREIGN KEY(JOB_ID) REFERENCES jobs(JOB_ID),SALARY NUMBER,COMMISION_PCT NUMBER,MANAGER_ID NUMBER,DEPARTMENT_ID NUMBER,FOREIGN KEY(DEPARTMENT_ID) REFERENCES departments(DEPARTMENT_ID));

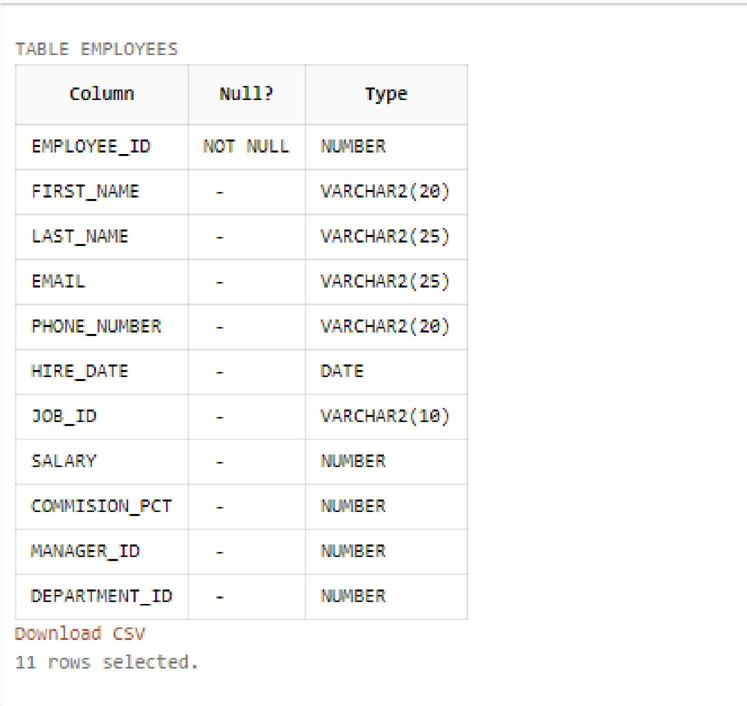


TABLE EMPLOYEES

Column	Null?	Type
EMPLOYEE_ID	NOT NULL	NUMBER
FIRST_NAME	-	VARCHAR2(20)
LAST_NAME	-	VARCHAR2(25)
EMAIL	-	VARCHAR2(25)
PHONE_NUMBER	-	VARCHAR2(20)
HIRE_DATE	-	DATE
JOB_ID	-	VARCHAR2(10)
SALARY	-	NUMBER
COMMISION_PCT	-	NUMBER
MANAGER_ID	-	NUMBER
DEPARTMENT_ID	-	NUMBER

Download CSV

11 rows selected.

create table jobhistory(EMPLOYEE_ID number(3),START_DATE date,END_DATE date,JOB_ID varchar(10),DEPARTMENT_ID number(3),primary key(EMPLOYEE_ID,START_DATE),foreign key(EMPLOYEE_ID) references employees(EMPLOYEE_ID),foreign key(JOB_ID) references jobs(JOB_ID),foreign key(DEPARTMENT_ID) references departments(DEPARTMENT_ID));

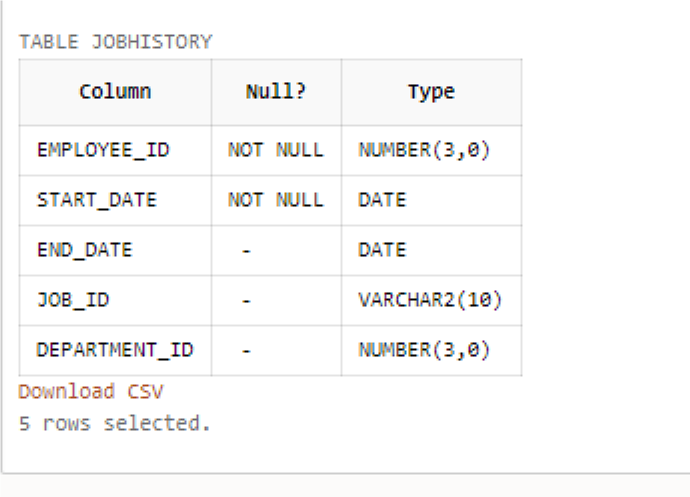


TABLE JOBHISTORY

Column	Null?	Type
EMPLOYEE_ID	NOT NULL	NUMBER(3,0)
START_DATE	NOT NULL	DATE
END_DATE	-	DATE
JOB_ID	-	VARCHAR2(10)
DEPARTMENT_ID	-	NUMBER(3,0)

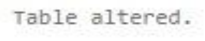
Download CSV

5 rows selected.

I.DDL COMMANDS

2.Add a field Circle to the table regions with the default value set to 'East' and display its modified schema

alter table regions add circle varchar(25) default 'East';



```
Table altered.
```

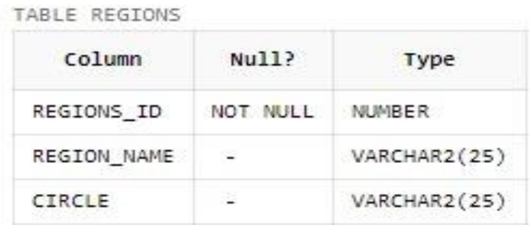
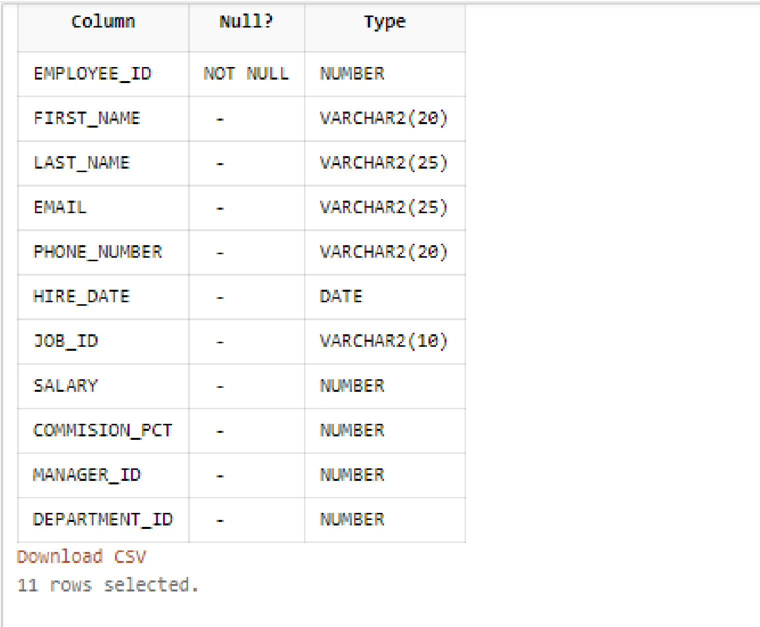


TABLE REGIONS

Column	Null?	Type
REGIONS_ID	NOT NULL	NUMBER
REGION_NAME	-	VARCHAR2(25)
CIRCLE	-	VARCHAR2(25)

3. Set a constraint to the SALARY field in the employees table that accepts only amount greater than zero

alter table employees add constraint chk_sal check (salary>0);



Column	Null?	Type
EMPLOYEE_ID	NOT NULL	NUMBER
FIRST_NAME	-	VARCHAR2(20)
LAST_NAME	-	VARCHAR2(25)
EMAIL	-	VARCHAR2(25)
PHONE_NUMBER	-	VARCHAR2(20)
HIRE_DATE	-	DATE
JOB_ID	-	VARCHAR2(10)
SALARY	-	NUMBER
COMMISION_PCT	-	NUMBER
MANAGER_ID	-	NUMBER
DEPARTMENT_ID	-	NUMBER

Download CSV

11 rows selected.

4. Modify the table countries by changing the width of the field COUNTRY_NAME to 30.

alter table countries modify country_name varchar2(30);

alter table countries modify COUNTRY_NAME varchar(30);

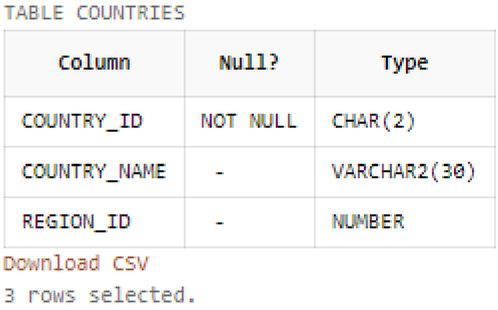


TABLE COUNTRIES

Column	Null?	Type
COUNTRY_ID	NOT NULL	CHAR(2)
COUNTRY_NAME	-	VARCHAR2(30)
REGION_ID	-	NUMBER

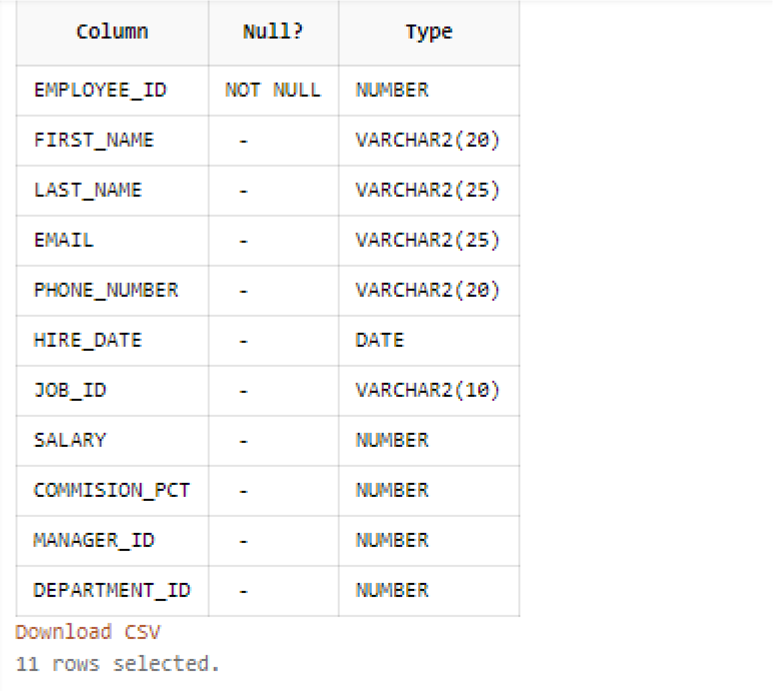
Download CSV

3 rows selected.

5. Make the PHONE_NUMBER field in employees unique and check the EMAIL is a valid gmail account

alter table employees add constraint emp_no unique(PHONE_NUMBER);

alter table employees modify Email varchar(25) check(EMAIL like '_%@%.%');



Column	Null?	Type
EMPLOYEE_ID	NOT NULL	NUMBER
FIRST_NAME	-	VARCHAR2(20)
LAST_NAME	-	VARCHAR2(25)
EMAIL	-	VARCHAR2(25)
PHONE_NUMBER	-	VARCHAR2(20)
HIRE_DATE	-	DATE
JOB_ID	-	VARCHAR2(10)
SALARY	-	NUMBER
COMMISION_PCT	-	NUMBER
MANAGER_ID	-	NUMBER
DEPARTMENT_ID	-	NUMBER

Download CSV
11 rows selected.

6.Drop the column Circle from the regions table alter table regions drop column circle;

alter table regions drop column circle;

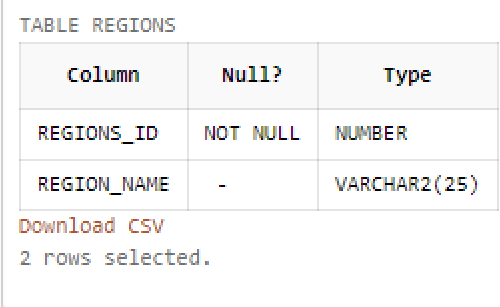


TABLE REGIONS

Column	Null?	Type
REGIONS_ID	NOT NULL	NUMBER
REGION_NAME	-	VARCHAR2(25)

Download CSV
2 rows selected.

7. create view for employees who get commission by hiding salary information. Display the contents of created view

employee_id,first_name,last_name,email,phone_number,hire_date,job_id,manager_id,department_id from employees where commission_pct != 0;

II.DML COMMANDS

8. Insert details in the above tables using the values given below.

insert into regions values(1,'zone1');

insert into regions values(2,'zone2');

insert into regions values(3,'zone3');

insert into regions values(4,'zone4');

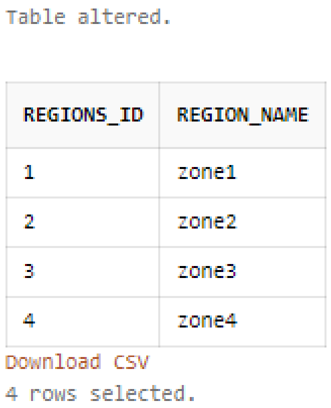


Table altered.

REGIONS_ID	REGION_NAME
1	zone1
2	zone2
3	zone3
4	zone4

Download CSV

4 rows selected.

insert into countries values('AU','AUSTRALIA',3);

insert into countries values('CA','CANADA',2);

insert into countries values('CN','CHINA',3);

insert into countries values('IN','INDIA',1);

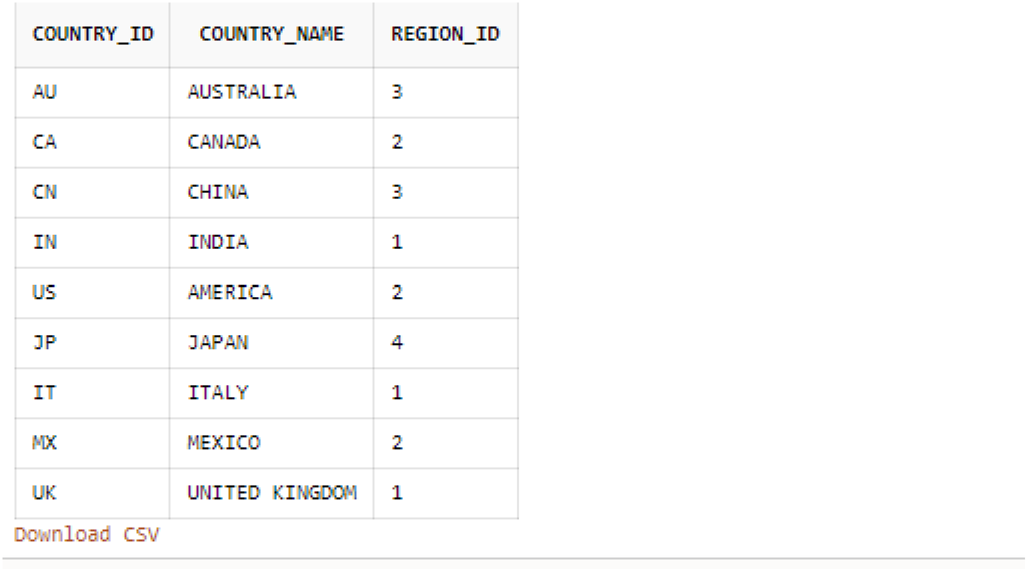
insert into countries values('US','AMERICA',2);

insert into countries values('JP','JAPAN',4);

insert into countries values('IT','ITALY',1);

insert into countries values('MX','MEXICO',2);

insert into countries values('UK','UNITED KINGDOM',1);



COUNTRY_ID	COUNTRY_NAME	REGION_ID
AU	AUSTRALIA	3
CA	CANADA	2
CN	CHINA	3
IN	INDIA	1
US	AMERICA	2
JP	JAPAN	4
IT	ITALY	1
MX	MEXICO	2
UK	UNITED KINGDOM	1

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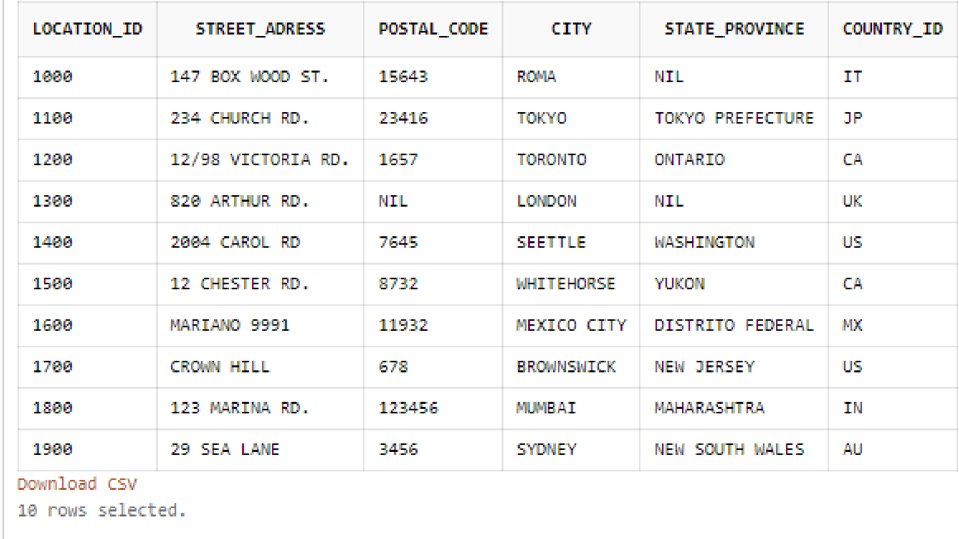
insert into locations values(1000,'147 BOX WOOD ST.','15643','ROMA','NIL','IT'); insert into
locations values(1100,'234 CHURCH RD.','23416','TOKYO','TOKYO PREFECTURE','JP');

insert into locations values(1200,'12/98 VICTORIA RD.','1657','TORONTO','ONTARIO','CA');

insert into locations values(1300,'820 ARTHUR RD.','NIL','LONDON','NIL','UK'); insert into locations values(1400,'2004 CAROL RD','7645','SEETTLE','WASHINGTON','US'); insert into locations values(1500,'12 CHESTER RD.','8732','WHITEHORSE','YUKON','CA'); insert into locations values(1600,'MARIANO 9991','11932','MEXICO CITY','DISTRITO FEDERAL','MX');

insert into locations values(1700,'CROWN HILL','678','BROWNSWICK','NEW JERSEY','US'); insert into locations values(1800,'123 MARINA RD.','123456','MUMBAI','MAHARASHTRA','IN');

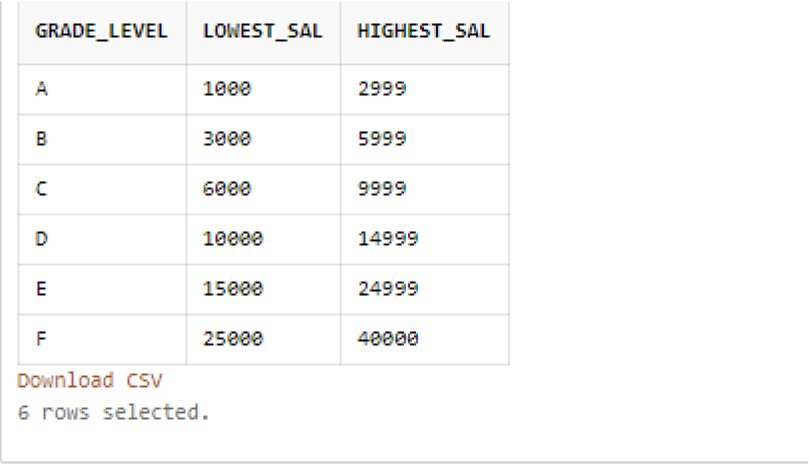
insert into locations values(1900,'29 SEA LANE','3456','SYDNEY','NEW SOUTH WALES','AU');



LOCATION_ID	STREET_ADRESS	POSTAL_CODE	CITY	STATE_PROVINCE	COUNTRY_ID
1000	147 BOX WOOD ST.	15643	ROMA	NIL	IT
1100	234 CHURCH RD.	23416	TOKYO	TOKYO PREFECTURE	JP
1200	12/98 VICTORIA RD.	1657	TORONTO	ONTARIO	CA
1300	820 ARTHUR RD.	NIL	LONDON	NIL	UK
1400	2004 CAROL RD	7645	SEETTLE	WASHINGTON	US
1500	12 CHESTER RD.	8732	WHITEHORSE	YUKON	CA
1600	MARIANO 9991	11932	MEXICO CITY	DISTRITO FEDERAL	MX
1700	CROWN HILL	678	BROWNSWICK	NEW JERSEY	US
1800	123 MARINA RD.	123456	MUMBAI	MAHARASHTRA	IN
1900	29 SEA LANE	3456	SYDNEY	NEW SOUTH WALES	AU

```
Download CSV
10 rows selected.
```

insert into job_grades values('A',1000,2999); insert into job_grades values('B',3000,5999); insert into job_grades values('C',6000,9999); insert into job_grades values('D',10000,14999); insert into job_grades values('E',15000,24999); insert into job_grades values('F',25000,40000); insert into jobs values('AD_PRES','PRESIDENT',20080,40000);



GRADE_LEVEL	LOWEST_SAL	HIGHEST_SAL
A	1000	2999
B	3000	5999
C	6000	9999
D	10000	14999
E	15000	24999
F	25000	40000

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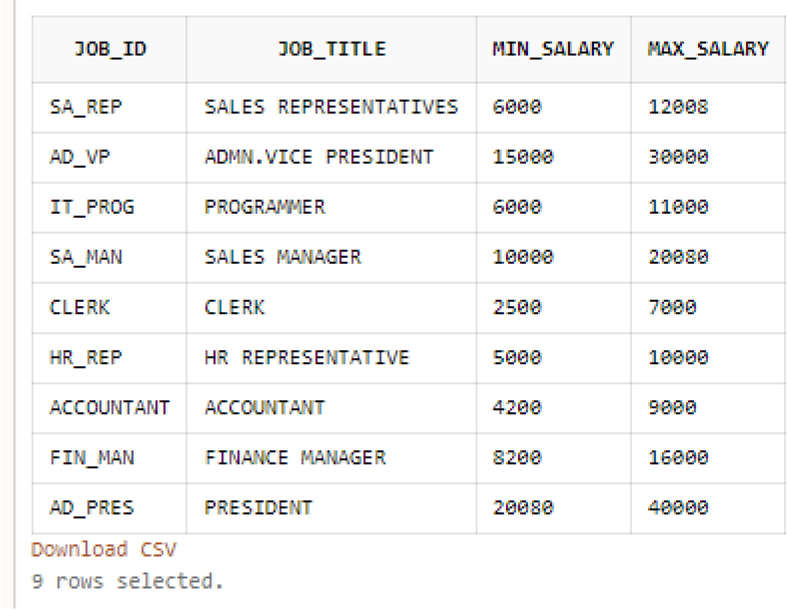
6 rows selected.

```
insert into jobs  values('SA_REP','SALES REPRESENTATIVES',6000,12008);
insert into jobs  values('AD_VP','ADMN.VICE PRESIDENT',15000,30000);
insert into jobs  values('IT_PROG','PROGRAMMER',6000,11000);
insert into jobs  values('SA_MAN','SALES MANAGER',10000,20080);
insert into jobs  values('CLERK','CLERK',2500,7000);
insert into jobs  values('HR_REP','HR REPRESENTATIVE',5000,10000);
insert into jobs  values('ACCOUNTANT','ACCOUNTANT',4200,9000);
insert into jobs  values('FIN_MAN','FINANCE MANAGER',8200,16000);
```

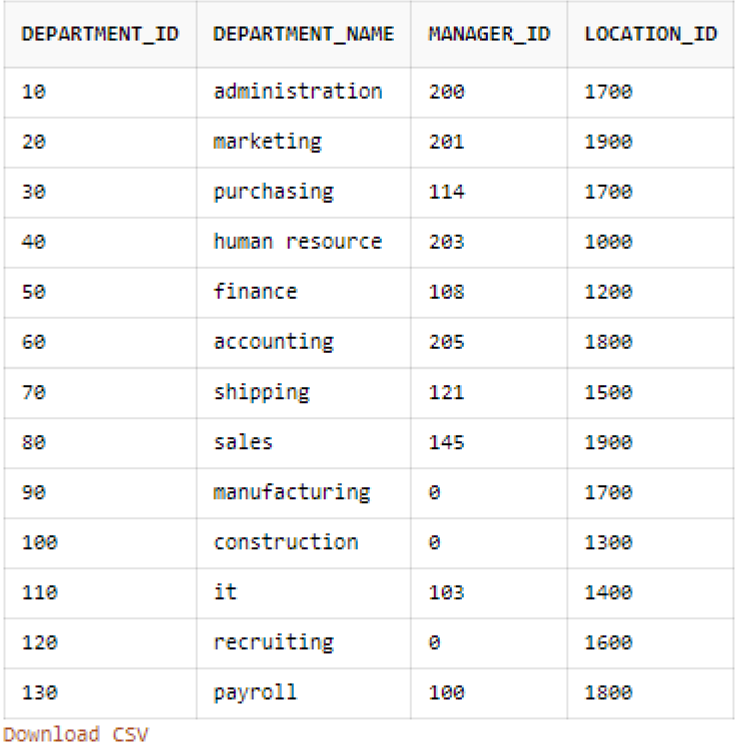


JOB_ID	JOB_TITLE	MIN_SALARY	MAX_SALARY
SA_REP	SALES REPRESENTATIVES	6000	12008
AD_VP	ADMN.VICE PRESIDENT	15000	30000
IT_PROG	PROGRAMMER	6000	11000
SA_MAN	SALES MANAGER	10000	20080
CLERK	CLERK	2500	7000
HR_REP	HR REPRESENTATIVE	5000	10000
ACCOUNTANT	ACCOUNTANT	4200	9000
FIN_MAN	FINANCE MANAGER	8200	16000
AD_PRES	PRESIDENT	20080	40000

Download CSV

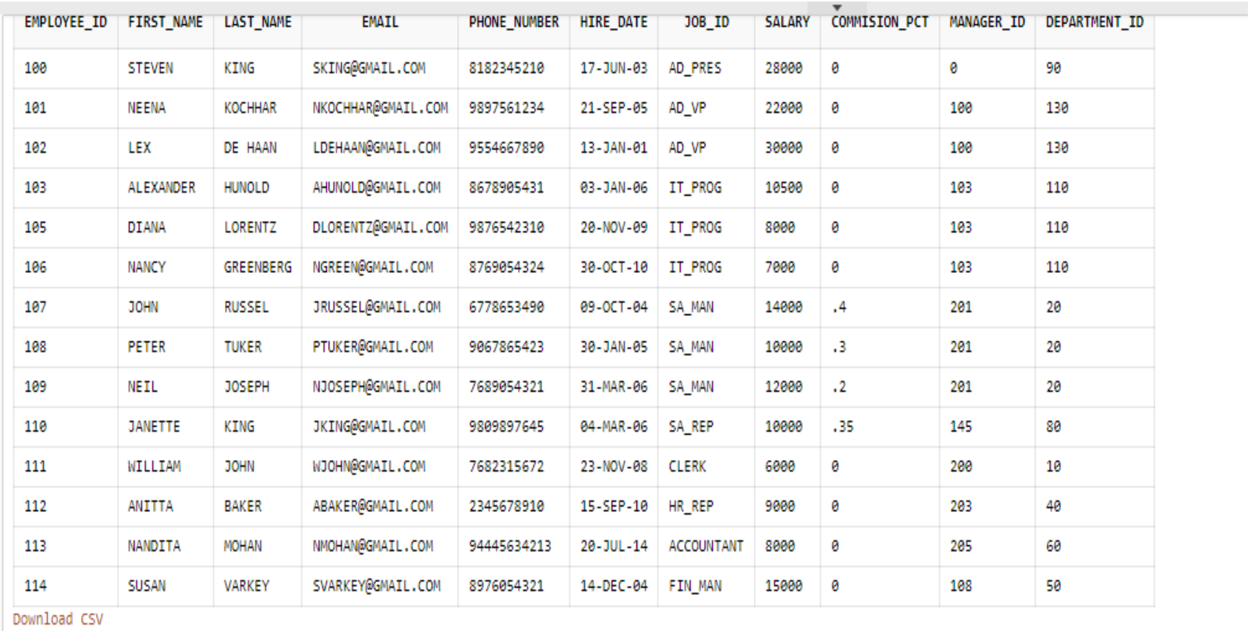
9 rows selected.

```
insert into departments values(10,'administration',200,1700);
 insert into departments values(20,'marketing',201,1900);
insert into departments values(30,'purchasing',114,1700);
insert into departments values(40,'human resource',203,1000);
insert into departments values(50,'finance',108,1200);
insert into departments values(60,'accounting',205,1800);
insert into departments values(70,'shipping',121,1500);
insert into departments values(80,'sales',145,1900);
insert into departments values(90,'manufacturing',0,1700);
 insert into departments values(100,'construction',0,1300);
 insert into departments values(110,'it',103,1400);
insert into departments values(120,'recruiting',0,1600);
insert into departments values(130,'payroll',100,1800);
```



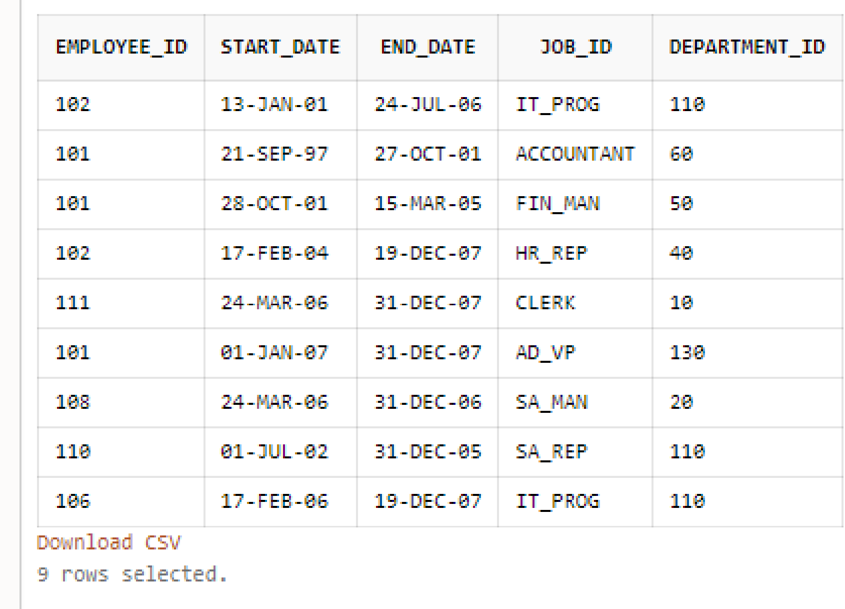
DEPARTMENT_ID	DEPARTMENT_NAME	MANAGER_ID	LOCATION_ID
10	administration	200	1700
20	marketing	201	1900
30	purchasing	114	1700
40	human resource	203	1000
50	finance	108	1200
60	accounting	205	1800
70	shipping	121	1500
80	sales	145	1900
90	manufacturing	0	1700
100	construction	0	1300
110	it	103	1400
120	recruiting	0	1600
130	payroll	100	1800

```
insert into employees values(100,'STEVEN','KING','SKING@GMAIL.COM',8182345210,'17-JUN-2003','AD_PRES',28000,0,0,90);

insert into employees values(101,'NEENA','KOCHHAR','NKOCHHAR@GMAIL.COM',9897561234,'21-SEP-2005','AD_VP',22000,0,100,130);

insert into employees values(102,'LEX','DE HAAN','LDEHAAN@GMAIL.COM',9554667890,'13-JAN-2001','AD_VP',30000,0,100,130);

insert into employeesvalues(103,'ALEXANDER','HUNOLD','AHUNOLD@GMAIL.COM',8678905431,'03-JAN-2006','IT_PROG',10500,0,103,110);
insert into employees values(104,'DAVID','AUSTIN','DAUSTIN@GMAIL.COM',9495235678,'10-MAY-2007','IT_PTOG',10000,0,103,110);
insert into employees values(105,'DIANA','LORENTZ','DLORENTZ@GMAIL.COM',9876542310,'20-NOV-2009','IT_PROG',8000,0,103,110);

insert into employees values(106,'NANCY','GREENBERG','NGREEN@GMAIL.COM',8769054324,'30-OCT-2010','IT_PROG',7000,0,103,110);

insert into employees values(107,'JOHN','RUSSEL','JRUSSEL@GMAIL.COM',6778653490,'09-OCT-2004','SA_MAN',14000,0.4,201,20);

insert into employees values(108,'PETER','TUKER','PTUKER@GMAIL.COM',9067865423,'30-JAN-2005','SA_MAN',10000,0.3,201,20);

insert into employees values(109,'NEIL','JOSEPH','NJOSEPH@GMAIL.COM',7689054321,'31-MAR-2006','SA_MAN',12000,0.2,201,20);

insert into employees values(110,'JANETTE','KING','JKING@GMAIL.COM',9809897645,'04-MAR-2006','SA_REP',10000,0.35,145,80);

insert into employeesvalues(111,'WILLIAM','JOHN','WJOHN@GMAIL.COM',7682315672,'23-NOV-2008','CLERK',6000,0,200,10);

insert into employees values(112,'ANITTA','BAKER','ABAKER@GMAIL.COM',2345678910,'15-SEP-2010','HR_REP',9000,0,203,40);

insertintoemployeevalues(113,'NANDITA','MOHAN','NMOHAN@GMAIL.COM',94445634213,'20-JUL-2014','ACCOUNTANT',8000,0,205,60);

insert into employees values(114,'SUSAN','VARKEY','SVARKEY@GMAIL.COM',8976054321,'14-DEC2004','FIN_MAN',15000,0,108,50);
```



EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE	JOB_ID	SALARY	COMMISION_PCT	MANAGER_ID	DEPARTMENT_ID
100	STEVEN	KING	SKING@GMAIL.COM	8182345210	17-JUN-03	AD_PRES	28000	0	0	90
101	NEENA	KOCHHAR	NKOCHHAR@GMAIL.COM	9897561234	21-SEP-05	AD_VP	22000	0	100	130
102	LEX	DE HAAN	LDEHAAN@GMAIL.COM	9554667890	13-JAN-01	AD_VP	30000	0	100	130
103	ALEXANDER	HUNOLD	AHUNOLD@GMAIL.COM	8678905431	03-JAN-06	IT_PROG	10500	0	103	110
105	DIANA	LORENTZ	DLORENTZ@GMAIL.COM	9876542310	20-NOV-09	IT_PROG	8000	0	103	110
106	NANCY	GREENBERG	NGREEN@GMAIL.COM	8769054324	30-OCT-10	IT_PROG	7000	0	103	110
107	JOHN	RUSSEL	JRUSSEL@GMAIL.COM	6778653490	09-OCT-04	SA_MAN	14000	.4	201	20
108	PETER	TUKER	PTUKER@GMAIL.COM	9067865423	30-JAN-05	SA_MAN	10000	.3	201	20
109	NEIL	JOSEPH	NJOSEPH@GMAIL.COM	7689054321	31-MAR-06	SA_MAN	12000	.2	201	20
110	JANETTE	KING	JKING@GMAIL.COM	9809897645	04-MAR-06	SA_REP	10000	.35	145	80
111	WILLIAM	JOHN	WJOHN@GMAIL.COM	7682315672	23-NOV-08	CLERK	6000	0	200	10
112	ANITTA	BAKER	ABAKER@GMAIL.COM	2345678910	15-SEP-10	HR_REP	9000	0	203	40
113	NANDITA	MOHAN	NMOHAN@GMAIL.COM	94445634213	20-JUL-14	ACCOUNTANT	8000	0	205	60
114	SUSAN	VARKEY	SVARKEY@GMAIL.COM	8976054321	14-DEC-04	FIN_MAN	15000	0	108	50

```
insert into jobhistory  values(102,'13-JAN-2001','24-JUL-2006','IT_PROG',110);
insert into jobhistory  values(101,'21-SEP-1997','27-OCT-2001','ACCOUNTANT',60);
 insert into jobhistory values(101,'28-OCT-2001','15-MAR-2005','FIN_MAN',50);
insert into jobhistory  values(102,'17-FEB-2004','19-DEC-2007','HR_REP',40);
insert into jobhistory  values(111,'24-MAR-2006','31-DEC-2007','CLERK',10);
 insert into jobhistory values(101,'01-JAN-2007','31-DEC-2007','AD_VP',130);
insert into jobhistory  values(108,'24-MAR-2006','31-DEC-2006','SA_MAN',20);
 insert into jobhistory values(110,'01-JUL-2002','31-DEC-2005','SA_REP',110);
 insert into jobhistory values(106,'17-FEB-2006','19-DEC-2007','IT_PROG',110);
```



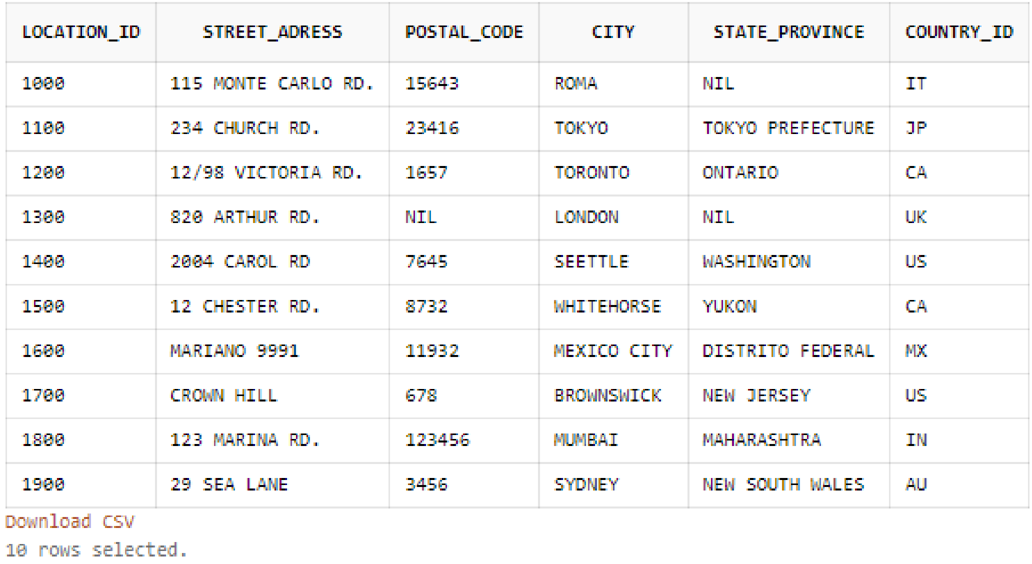
EMPLOYEE_ID	START_DATE	END_DATE	JOB_ID	DEPARTMENT_ID
102	13-JAN-01	24-JUL-06	IT_PROG	110
101	21-SEP-97	27-OCT-01	ACCOUNTANT	60
101	28-OCT-01	15-MAR-05	FIN_MAN	50
102	17-FEB-04	19-DEC-07	HR_REP	40
111	24-MAR-06	31-DEC-07	CLERK	10
101	01-JAN-07	31-DEC-07	AD_VP	130
108	24-MAR-06	31-DEC-06	SA_MAN	20
110	01-JUL-02	31-DEC-05	SA_REP	110
106	17-FEB-06	19-DEC-07	IT_PROG	110

Download CSV

9 rows selected.

9.Update the street_Address of Roma city to 115 Monte Carlo Rd. in locations table

```
update locations set street_adress='115 MONTE CARLO RD.' where city='ROMA';
```



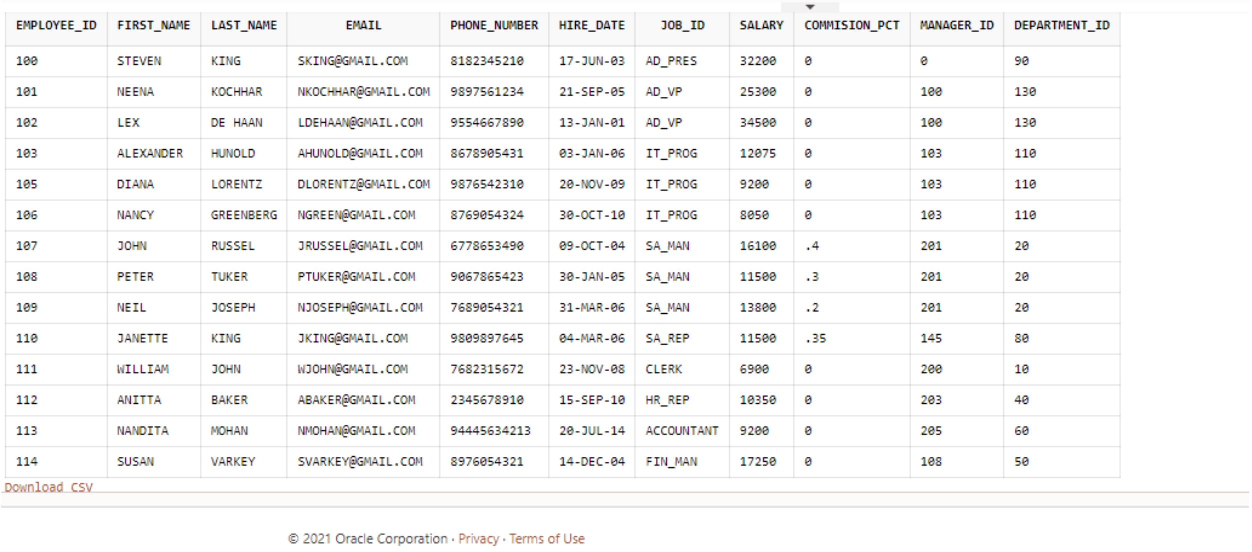
LOCATION_ID	STREET_ADRESS	POSTAL_CODE	CITY	STATE_PROVINCE	COUNTRY_ID
1000	115 MONTE CARLO RD.	15643	ROMA	NIL	IT
1100	234 CHURCH RD.	23416	TOKYO	TOKYO PREFECTURE	JP
1200	12/98 VICTORIA RD.	1657	TORONTO	ONTARIO	CA
1300	820 ARTHUR RD.	NIL	LONDON	NIL	UK
1400	2004 CAROL RD	7645	SEETTLE	WASHINGTON	US
1500	12 CHESTER RD.	8732	WHITEHORSE	YUKON	CA
1600	MARIANO 9991	11932	MEXICO CITY	DISTRITO FEDERAL	MX
1700	CROWN HILL	678	BROWNSWICK	NEW JERSEY	US
1800	123 MARINA RD.	123456	MUMBAI	MAHARASHTRA	IN
1900	29 SEA LANE	3456	SYDNEY	NEW SOUTH WALES	AU

Download CSV

10 rows selected.

10. Give a 15% increment in salary for all employees

update employees set salary=salary+salary*0.15;

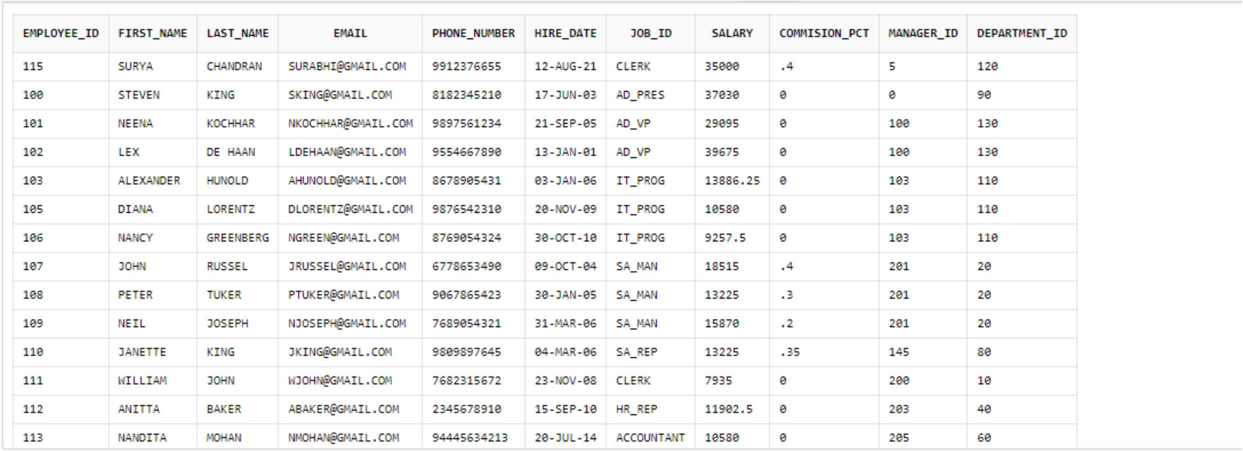


EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE	JOB_ID	SALARY	COMMISION_PCT	MANAGER_ID	DEPARTMENT_ID
100	STEVEN	KING	SKING@GMAIL.COM	8182345210	17-JUN-03	AD_PRES	32200	0	0	90
101	NEENA	KOCHHAR	NKOCHHAR@GMAIL.COM	9897561234	21-SEP-05	AD_VP	25300	0	100	130
102	LEX	DE HAAN	LDEHAAN@GMAIL.COM	9554667890	13-JAN-01	AD_VP	34500	0	100	130
103	ALEXANDER	HUNOLD	AHUNOLD@GMAIL.COM	8678905431	03-JAN-06	IT_PROG	12075	0	103	110
105	DIANA	LORENTZ	DLORENTZ@GMAIL.COM	9876542310	20-NOV-09	IT_PROG	9200	0	103	110
106	NANCY	GREENBERG	NGREEN@GMAIL.COM	8769054324	30-OCT-10	IT_PROG	8050	0	103	110
107	JOHN	RUSSEL	JRUSSEL@GMAIL.COM	6778653490	09-OCT-04	SA_MAN	16100	.4	201	20
108	PETER	TUKER	PTUKER@GMAIL.COM	9067865423	30-JAN-05	SA_MAN	11500	.3	201	20
109	NEIL	JOSEPH	NJOSEPH@GMAIL.COM	7689054321	31-MAR-06	SA_MAN	13800	.2	201	20
110	JANETTE	KING	JKING@GMAIL.COM	9809897645	04-MAR-06	SA_REP	11500	.35	145	80
111	WILLIAM	JOHN	WJOHN@GMAIL.COM	7682315672	23-NOV-08	CLERK	6900	0	200	10
112	ANITTA	BAKER	ABAKER@GMAIL.COM	2345678910	15-SEP-10	HR_REP	10350	0	203	40
113	NANDITA	MOHAN	NMOHAN@GMAIL.COM	94445634213	20-JUL-14	ACCOUNTANT	9200	0	205	60
114	SUSAN	VARKEY	SVARKEY@GMAIL.COM	8976054321	14-DEC-04	FIN_MAN	17250	0	108	50

Download CSV

11. Add a new employee in the ‘Recruiting‘ department as clerk and set joining date as today’s date

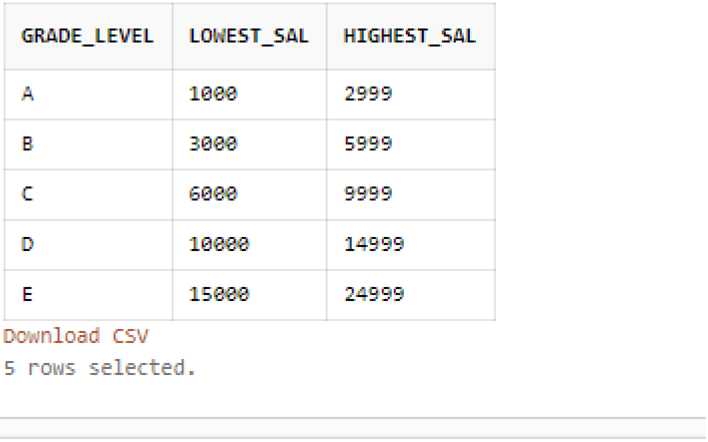
.insert into employees values(115,'SURYA','CHANDRAN','SURABHI@GMAIL.COM',9912376655,'12-AUG21','CLERK',35000,0.4,5,120);



EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE	JOB_ID	SALARY	COMMISION_PCT	MANAGER_ID	DEPARTMENT_ID
115	SURYA	CHANDRAN	SURABHI@GMAIL.COM	9912376655	12-AUG-21	CLERK	35000	.4	5	120
100	STEVEN	KING	SKING@GMAIL.COM	8182345210	17-JUN-03	AD_PRES	37030	0	0	90
101	NEENA	KOCHHAR	NKOCHHAR@GMAIL.COM	9897561234	21-SEP-05	AD_VP	29095	0	100	130
102	LEX	DE HAAN	LDEHAAN@GMAIL.COM	9554667890	13-JAN-01	AD_VP	39675	0	100	130
103	ALEXANDER	HUNOLD	AHUNOLD@GMAIL.COM	8678905431	03-JAN-06	IT_PROG	13886.25	0	103	110
105	DIANA	LORENTZ	DLORENTZ@GMAIL.COM	9876542310	20-NOV-09	IT_PROG	10580	0	103	110
106	NANCY	GREENBERG	NGREEN@GMAIL.COM	8769054324	30-OCT-10	IT_PROG	9257.5	0	103	110
107	JOHN	RUSSEL	JRUSSEL@GMAIL.COM	6778653490	09-OCT-04	SA_MAN	18515	.4	201	20
108	PETER	TUKER	PTUKER@GMAIL.COM	9067865423	30-JAN-05	SA_MAN	13225	.3	201	20
109	NEIL	JOSEPH	NJOSEPH@GMAIL.COM	7689054321	31-MAR-06	SA_MAN	15870	.2	201	20
110	JANETTE	KING	JKING@GMAIL.COM	9809897645	04-MAR-06	SA_REP	13225	.35	145	80
111	WILLIAM	JOHN	WJOHN@GMAIL.COM	7682315672	23-NOV-08	CLERK	7935	0	200	10
112	ANITTA	BAKER	ABAKER@GMAIL.COM	2345678910	15-SEP-10	HR_REP	11902.5	0	203	40
113	NANDITA	MOHAN	NMOHAN@GMAIL.COM	94445634213	20-JUL-14	ACCOUNTANT	10580	0	205	60

12. Delete grade_level value 'F' in table job_grades and conform the deletion by verifying the remaining rows of the table.

delete from job_grades where grade_level='F';

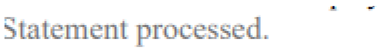


GRADE_LEVEL	LOWEST_SAL	HIGHEST_SAL
A	1000	2999
B	3000	5999
C	6000	9999
D	10000	14999
E	15000	24999

```
Download CSV
5 rows selected.
```

13.Undo the previous delete operation.

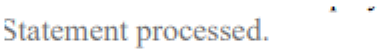
rollback;



```
Statement processed.
```

14..Save all the transactions to the database

Commit;



```
Statement processed.
```

15.Grant the privilege to read and delete from the employees table to the User U1.

GRANT DELETE ON employees TO U1;

Statement processed.

16.Revoke the delete privilege from U1.

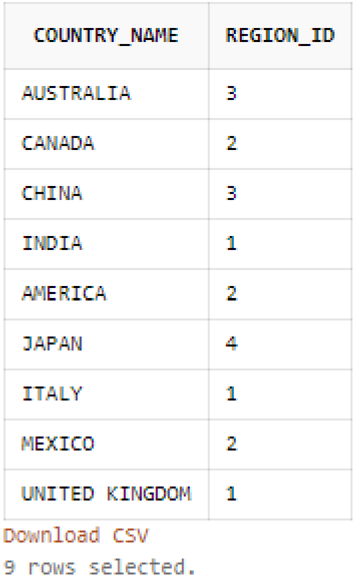
REVOKE DELETE ON employees FROM U1;

Statement processed.

Iv.ACCESSING DATABASE

17.Display countries along with their regional code

SELECT country_name,region_id from countries;

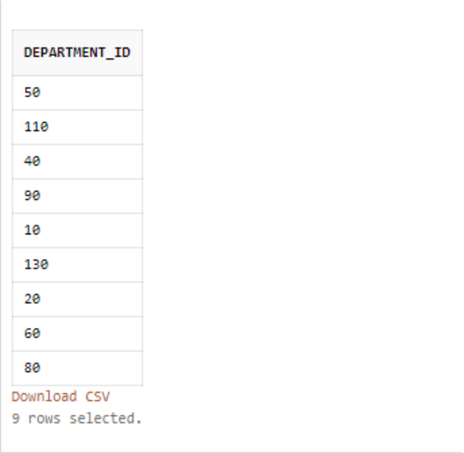


COUNTRY_NAME	REGION_ID
AUSTRALIA	3
CANADA	2
CHINA	3
INDIA	1
AMERICA	2
JAPAN	4
ITALY	1
MEXICO	2
UNITED KINGDOM	1

Download CSV
9 rows selected.

18. List department ID without any repeats from employees table

select a.country_name,b.region_name from countries a, regions b where a.region_id=b.region_id;



DEPARTMENT_ID
50
110
40
90
10
130
20
60
80

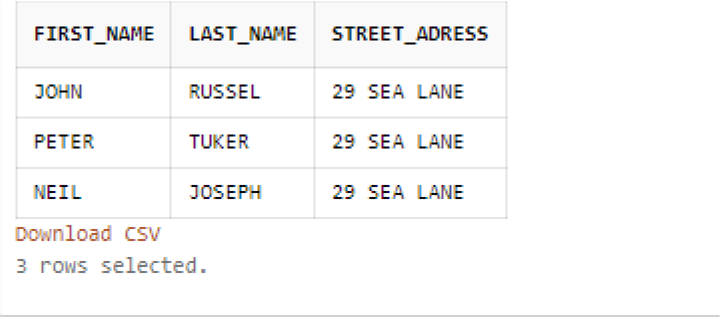
Download CSV

9 rows selected.

19. List the official address and names of all employees in Marketing Department.

SELECTE DISTINCT department_id from employees;

select first_name,last_name,street_address from employees,locations where location_id in (select location_id from departments where department_name='marketing') and department_id in (select department_id from departments where department_name='marketing');



FIRST_NAME	LAST_NAME	STREET_ADRESS
JOHN	RUSSEL	29 SEA LANE
PETER	TUKER	29 SEA LANE
NEIL	JOSEPH	29 SEA LANE

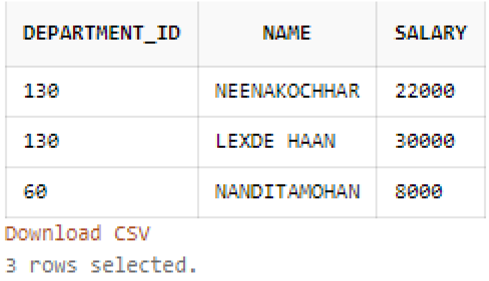
Download CSV

3 rows selected.

20. Display first and last name in a single heading Name, salary, department ID for those employees whose department is located in the city Mumbai

select department_id,CONCAT(first_name,last_name) AS Name,salary from employees where department_id in

(select department_id from departments where location_id in (select location_id from locations where city='MUMBAI'));



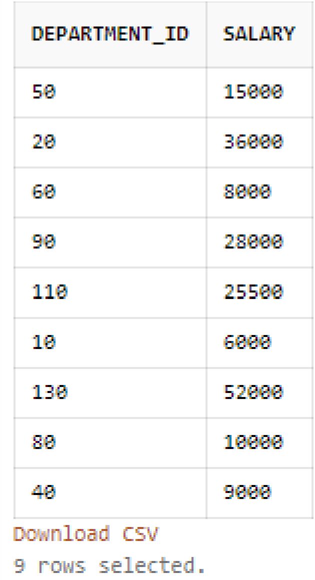
DEPARTMENT_ID	NAME	SALARY
130	NEENAKOCHHAR	22000
130	LEXDE HAAN	30000
60	NANDITAMOHAN	8000

Download CSV

3 rows selected.

21. List the total salary spent for each department

SELECT DISTINCT department_id,sum(salary) OVER(PARTITION BY department_id) Salary from employees;



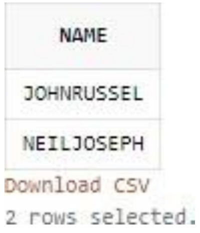
DEPARTMENT_ID	SALARY
50	15000
20	36000
60	8000
90	28000
110	25500
10	6000
130	52000
80	10000
40	9000

Download CSV

9 rows selected.

22.List the names of employees in Marketing having salary greater than maximum salary of employees in IT department.

SELECT CONCAT(first_name,last_name) AS Name FROM employees WHERE salary IN (SELECT salary FROM employees WHERE department_id IN (SELECT department_id FROM departmentsWHERE department_name = 'marketing')) and salary > (SELECT max(salary) FROM employees WHERE department_id IN (SELECT department_id FROM departments WHERE department_name = 'it'));



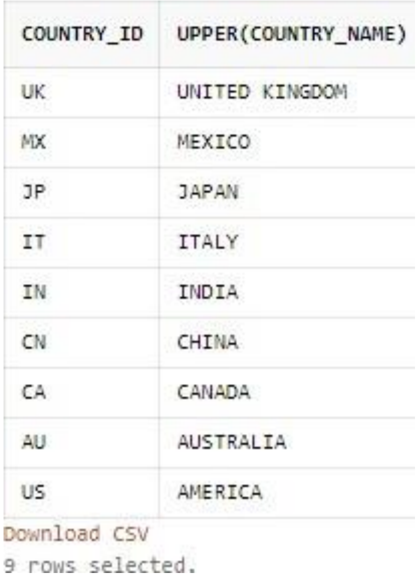
NAME
JOHNRUSSEL
NEILJOSEPH

Download CSV

2 rows selected.

23.Display country names in upper case and in descending order along with their codes.

SELECT country_id,upper(country_name) from countries order by country_name desc;



COUNTRY_ID	UPPER(COUNTRY_NAME)
UK	UNITED KINGDOM
MX	MEXICO
JP	JAPAN
IT	ITALY
IN	INDIA
CN	CHINA
CA	CANADA
AU	AUSTRALIA
US	AMERICA

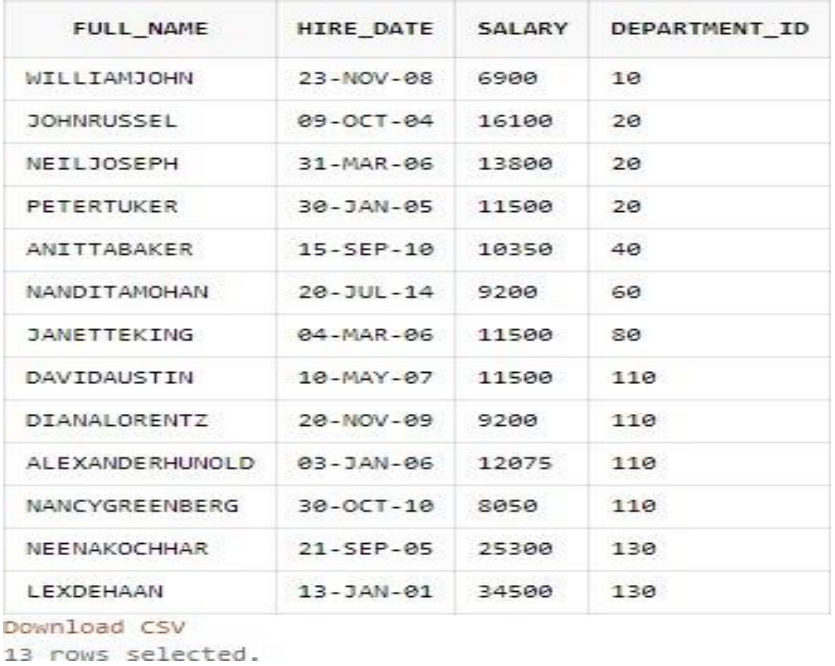
Download CSV

9 rows selected.

24.**Display the full name (first and last), hire date, salary, and department number for those employees whose first name does not containing the letter 'S' and make the result set in ascending order by department number.**

SELECT CONCAT(first_name,last_name) AS Full_Name,hire_date,salary,department_id

from employees where first_name not LIKE '%S%' order by department_id asc;



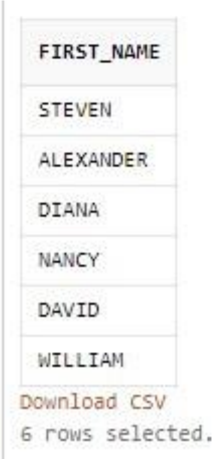
FULL_NAME	HIRE_DATE	SALARY	DEPARTMENT_ID
WILLIAMJOHN	23-NOV-08	6900	10
JOHNRUSSEL	09-OCT-04	16100	20
NEILJOSEPH	31-MAR-06	13800	20
PETERTUKER	30-JAN-05	11500	20
ANITTABAKER	15-SEP-10	10350	40
NANDITAMOHAN	20-JUL-14	9200	60
JANETTEKING	04-MAR-06	11500	80
DAVIDAUSTIN	10-MAY-07	11500	110
DIANALORENTZ	20-NOV-09	9200	110
ALEXANDERHUNOLD	03-JAN-06	12075	110
NANCYGREENBERG	30-OCT-10	8050	110
NEENAKOCHHAR	21-SEP-05	25300	130
LEXDEHAAN	13-JAN-01	34500	130

Download CSV

13 rows selected.

25.**Identify all employees who work in departments located in the United States.**

SELECT first_name from employees where department_id in (select department_id from departments where location_id in (select location_id from locations where country_id in (select country_id from countries where country_name= 'AMERICA')));

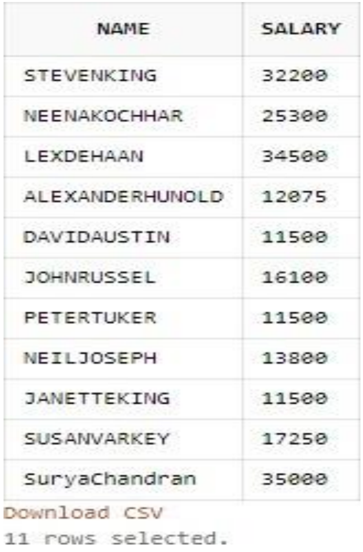


FIRST_NAME
STEVEN
ALEXANDER
DIANA
NANCY
DAVID
WILLIAM

Download CSV
6 rows selected.

26.**Display the name (first name and last name) for those employees who gets more salary than the employee whose id is 112.**

SELECT CONCAT(first_name,last_name) AS Name,salary from employees where salary > (select salary from employees where employee_id='112');



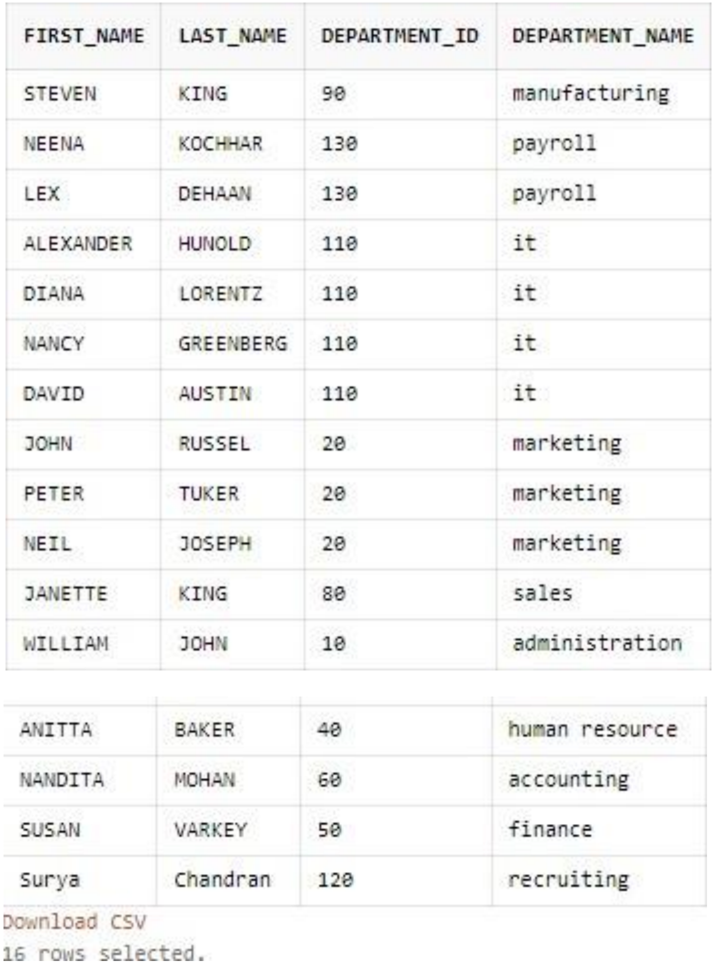
NAME	SALARY
STEVENKING	32200
NEENAKOCHHAR	25300
LEXDEHAAN	34500
ALEXANDERHUNOLD	12075
DAVIDAUSTIN	11500
JOHNRUSSEL	16100
PETERTUKER	11500
NEILJOSEPH	13800
JANETTEKING	11500
SUSANVARKEY	17250
SuryaChandran	35000

Download CSV
11 rows selected.

V. Optimizing databases

27.Use inner join to display the name, department number, and department name for each employee.

Select employees.first_name,employees.last_name,departments.department_id,departments.department_n a me FROM employees INNER JOIN departments ON employees.department_id = departments.department_id;



FIRST_NAME	LAST_NAME	DEPARTMENT_ID	DEPARTMENT_NAME
STEVEN	KING	90	manufacturing
NEENA	KOCHHAR	130	payroll
LEX	DEHAAN	130	payroll
ALEXANDER	HUNOLD	110	it
DIANA	LORENTZ	110	it
NANCY	GREENBERG	110	it
DAVID	AUSTIN	110	it
JOHN	RUSSEL	20	marketing
PETER	TUKER	20	marketing
NEIL	JOSEPH	20	marketing
JANETTE	KING	80	sales
WILLIAM	JOHN	10	administration
ANITTA	BAKER	40	human resource
NANDITA	MOHAN	60	accounting
SUSAN	VARKEY	50	finance
Surya	Chandran	120	recruiting

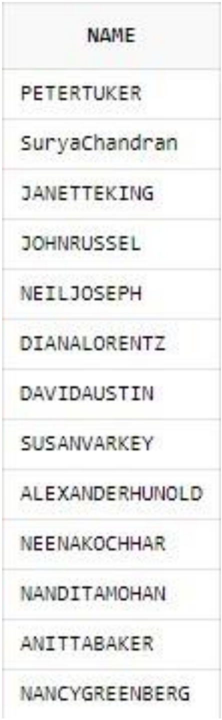
```
Download CSV
16 rows selected.
```

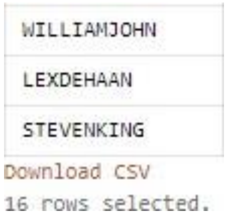
28.List employees who have no job history details using left outer join.

SELECT DISTINCT CONCAT(first_name,last_name) AS Name FROM employees LEFT OUTER JOIN job_history ON employees.employee_id = job_history.employee_id;

29.List department details which have currently no employees using right outer join.

SELECT * FROM departments RIGHT OUTER JOIN employees ON departments.department_id = employees.employee_id;





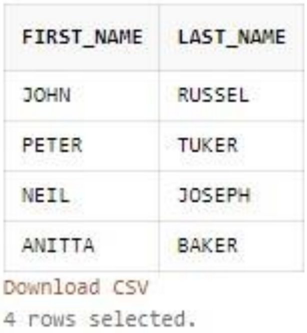
NAME
PETERTUKER
SuryaChandran
JANETTEKING
JOHNRUSSEL
NEILJOSEPH
DIANALORENTZ
DAVIDAUSTIN
SUSANVARKEY
ALEXANDERHUNOLD
NEENAKOCHHAR
NANDITAMOHAN
ANITTABAKER
NANCYGREENBERG
WILLIAMJOHN
LEXDEHAAN
STEVENKING

Download CSV

16 rows selected.

30.List all employees who are working in Marketing or Human Resource Department.

SELECT first_name,last_name from employees where department_id in (select department_id from departments where department_name in ('marketing','human resource'));



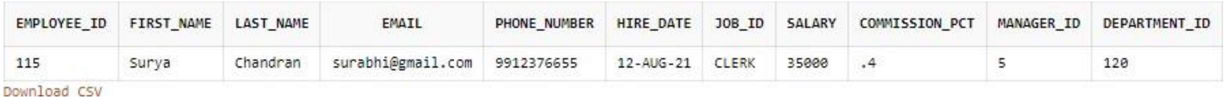
FIRST_NAME	LAST_NAME
JOHN	RUSSEL
PETER	TUKER
NEIL	JOSEPH
ANITTA	BAKER

Download CSV

4 rows selected.

31.List the details of employee who draw the highest salary.

```
SELECT * from employees where salary = ( select max(salary) from employees);
```

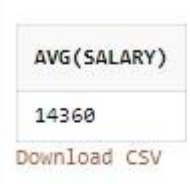


EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE	JOB_ID	SALARY	COMMISSION_PCT	MANAGER_ID	DEPARTMENT_ID
115	Surya	Chandran	surabhi@gmail.com	9912376655	12-AUG-21	CLERK	35000	.4	5	120

Download CSV

32.Find the average salary of employees who joined after 2009.

```
SELECT avg(salary) FROM employees WHERE hire_date>('01-Jan-2009');
```

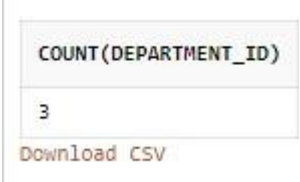


AVG(SALARY)
14360

Download CSV

33.Count total number of employees in department with ID 20.

```
SELECT COUNT(department_id)FROM employees WHERE department_id='20';
```

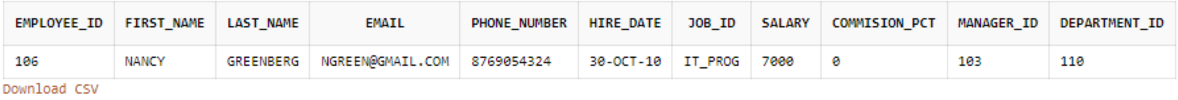


COUNT(DEPARTMENT_ID)
3

Download CSV

34.Find out the person with lowest salary in IT department.

```
SELECT * from employees where salary = ( select min(salary) from employees where department_id in
(select department_id from departments where department_name='it'));
```

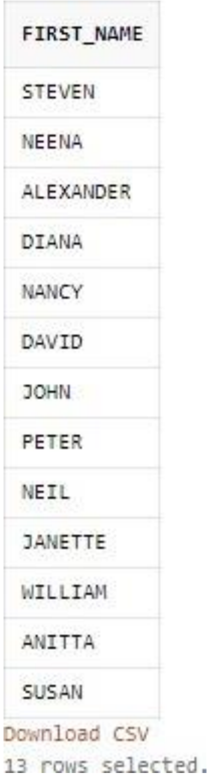


EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE	JOB_ID	SALARY	COMMISION_PCT	MANAGER_ID	DEPARTMENT_ID
106	NANCY	GREENBERG	NGREEN@GMAIL.COM	8769054324	30-OCT-10	IT_PROG	7000	0	103	110

Download CSV

35.List all employees who joined in the period 2003-2006 and 2009-2011.

```
SELECT first_name FROM employees WHERE hire_date BETWEEN ('01-Jan-2003') AND ('01-Jan-2011')
AND hire_date NOT IN ('01-Jan-2007','01-Jan-2008');
```

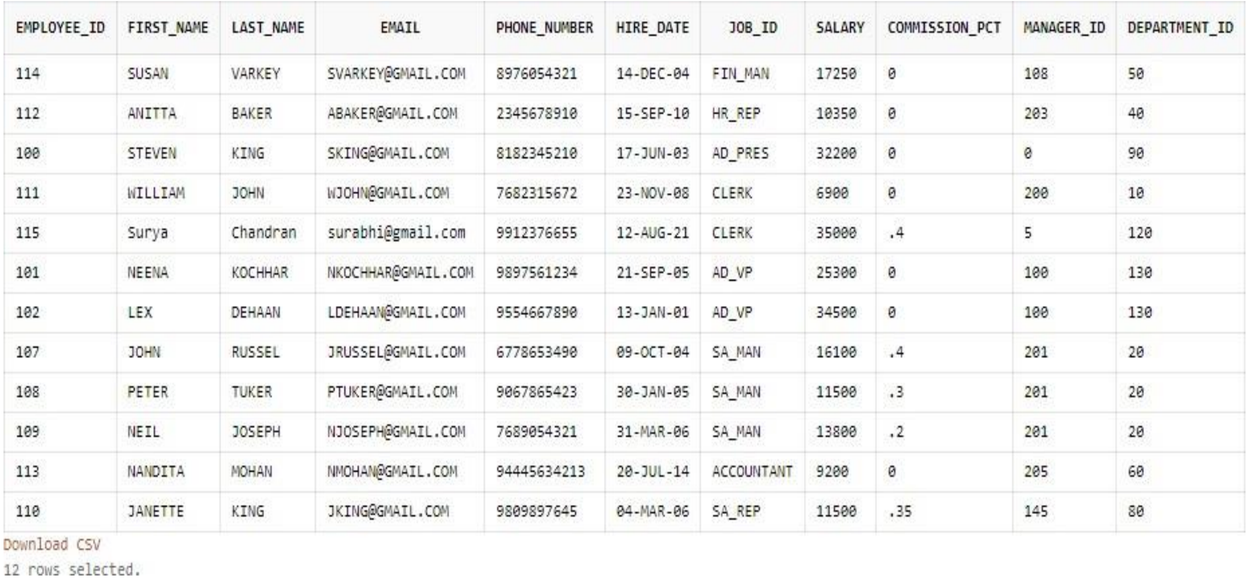


FIRST_NAME
STEVEN
NEENA
ALEXANDER
DIANA
NANCY
DAVID
JOHN
PETER
NEIL
JANETTE
WILLIAM
ANITTA
SUSAN

Download CSV
13 rows selected.

36.List all employees along with their salary excluding IT programmers.

```
SELECT * FROM Employees WHERE department_id not in (select department_id from

departments WHERE department_name='it');
```



EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE	JOB_ID	SALARY	COMMISSION_PCT	MANAGER_ID	DEPARTMENT_ID
114	SUSAN	VARKEY	SVARKEY@GMAIL.COM	8976054321	14-DEC-04	FIN_MAN	17250	0	108	50
112	ANITTA	BAKER	ABAKER@GMAIL.COM	2345678910	15-SEP-10	HR_REP	10350	0	203	40
100	STEVEN	KING	SKING@GMAIL.COM	8182345210	17-JUN-03	AD_PRES	32200	0	0	90
111	WILLIAM	JOHN	WJOHN@GMAIL.COM	7682315672	23-NOV-08	CLERK	6900	0	200	10
115	Surya	Chandran	surabhi@gmail.com	9912376655	12-AUG-21	CLERK	35000	.4	5	120
101	NEENA	KOCHHAR	NKOCHHAR@GMAIL.COM	9897561234	21-SEP-05	AD_VP	25300	0	100	130
102	LEX	DEHAAN	LDEHAAN@GMAIL.COM	9554667890	13-JAN-01	AD_VP	34500	0	100	130
107	JOHN	RUSSEL	JRUSSEL@GMAIL.COM	6778653490	09-OCT-04	SA_MAN	16100	.4	201	20
108	PETER	TUKER	PTUKER@GMAIL.COM	9067865423	30-JAN-05	SA_MAN	11500	.3	201	20
109	NEIL	JOSEPH	NJOSEPH@GMAIL.COM	7689054321	31-MAR-06	SA_MAN	13800	.2	201	20
113	NANDITA	MOHAN	NMOHAN@GMAIL.COM	94445634213	20-JUL-14	ACCOUNTANT	9200	0	205	60
110	JANETTE	KING	JKING@GMAIL.COM	9809897645	04-MAR-06	SA_REP	11500	.35	145	80

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12 rows selected.

37.Display the name and job_id of employees with their DA amount (DA= 25% of salary).

```
select first_name, last_name,job_id,salary*.25 as DA from employees;
```

```
FIRST_NAME     LAST_NAME     JOB_ID              DA

STEVEN         KING          AD_PRES      14079.5003125
NEENA          KOCHHAR       AD_VP        11062.46453125
LEX DE         HAAN          AD_VP        15085.17890625
ALEXANDER      HUNOLD        IT_PROG      5279.8126171875
DIANA          LORENTZ       IT_PROG      4022.714375
NANCY          GREENBERG     IT_PROG      3519.875078125
DAVID          AUSTIN        IT_PROG      5028.39296875
JOHN           RUSSEL        SA_MAN       7039.75015625
PETER          TUKER         SA_MAN       5028.39296875
NEIL           JOSEPH        SA_MAN       6034.0715625
JANETTE        KING          SA_REP       5028.39296875
WILLIAM        JOHN          CLERK        3017.03578125
ANITTA         BAKER         HR_REP       4525.553671875
NANDITA        MOHAN         ACCOUNTANT   4022.714375
SUSAN          VARKEY        FIN_MAN      7542.589453125
```