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1.	Write a query in SQL to list the details of the employees whose salary is more than the salary of DEN.		
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4.	Write a query in SQL to list the employees who joined in 1991 in a designation same as the most senior person of the year 1991.		
5.	Write a query in SQL to list the details of the departments where maximum number of employees working.		
6.	Display all the information of all employees who have the letters D, S, or N in their first name and arrange the result in descending order by salary.		
7.	Display those employees who contain a letter z to their first name and also display their last name, department, city, and state province.		
8.	Display all departments including those where does not have any employee.		
9.	Write a query in SQL to display the first name of all employees including the first name of their manager.		
10.	Display the full name of employee with ID and present country where (s)he is working.		

Assignment – 4

S.No.	Assignment	Page No.	Signature
1.	**Create a PL/SQL program to show your name on the console.**		
2.	**With the help of example the following :** **i) If and else statement** **ii) Loop...endloop with while** **iii) Loop...endloop with for.**		
3.	**Explain the following Transaction control in PL/SQL :** **i)SAVEPOINT** **ii)COMMIT** **iii)ROLLBACK**		
4.	**Write a program to show the use of implicit cursor.**		
5.	**Write a program to show the use of explicit cursor.**		
6.	**Create a PL/SQL program to raise salary of manager by 1000 and salary of clerk by 500.**		
7.	**Create a PL/SQL program to check data type or size error and generate an exception is required.**		

Assignment - 1

Q 1.) Create table EMPLOYEE (EID, FName, Lname, DOJ, DEPID, E_Department, MgrID, Salary, Gender, Contact, Address, City, State, Pincode. M_status) AND USE INSERT COMMAND to fill the records.

Ans:

```
create table employee(eid number(2) primary key, fname char(20), lname char(20), doj date, depid
number(2), e_department char(30), mgrid number(2),salary number(9,2),gender char(1) check (
gender in('f','m','o')), contact number(10) check (contact between 6000000000 and 10000000000),
address varchar(50), city char(30),state char(30), pincode number(6), m_status char(1) check
(m_status in('y','n')));
```

Output:

```
Table created.
```

```
insert into employee values(1,'vikas','raj','02-may-01',1,'web pan testing', NULL, 60000, 'm',
9999999999, '123', 'jodhpur',  'rajasthan', 123456, 'n');

insert into employee values(2,'dev','raj','02-may- 18', 2, 'testing', NULL, 20000, 'm', 9999999999,
'345', 'jodhpur', 'rajasthan', 123456, 'n');

insert into employee values(3,'vijay','raj','12-may- 01', 2, 'testing', NULL, 60000, 'm', 9999999999,
'567', 'jodhpur', 'rajasthan', 123456, 'n');

insert into employee values(4,'vishnu','raj','03-may-01',3,'digital marketing', NULL, 60000, 'm',
9999999999, '789', 'jodhpur', 'rajasthan', 123456, 'n');

insert into employee values(5,'david','raj','12-may-11',3,'digital marketing', NULL, 10000, 'm',
9999999999, '098', 'jaipur', 'rajasthan', 123456, 'n');

insert into employee values(6,'ritik','raj','01-may- 09', 4, 'dba', NULL, 30000, 'm', 9999999999, '876',
'jaipur', 'rajasthan', 123456, 'n');

insert into employee values(7,'abhinav','raj','12-may- 19', 5, 'networking', NULL, 20000, 'm',
9999999999, '643', 'jaipur', 'rajasthan', 123456, 'n');

insert into employee values(8,'ramesh','raj','12-may- 12', 6, 'programming', NULL, 20000, 'm',
9999999999, '432', 'jaipur', 'rajasthan', 123456, 'n');
```

```
row created.
```

Q2). (i) USE ALTER TABLE COMMAND TO ADD COLUMN DOB RENAME M_status TO MARITAL_STATUS.

Ans:

```
alter table employee add dob date;

alter table employee rename column m_status to marital_status;
```

output:

```
Table altered.
```

(ii) CHANAGE SIZE OF FName TO (+10) FROM CURRENT SIZE AND DROP COLUMN E_Department Explain the commands used above.

Ans:

```
alter table employee modify fname char(30); alter table employee drop column e_department;
```

output:

```
Table altered.
```

Q3). Create a department table with fields (DID, D_name, D_location).DEPID field of employee table will Reference DID field of department table prepare either column Level or table level foreign key constraints.

Ans:

```
create table department (did number(2) primary key,d_name char(20),d_location char (30));

 insert into department values(1,'web pantesting','jaipur');

insert into department values(2,'testing','jodhpur');

insert into department values(3,'degital marketing','jaipur');

 insert into department values(4,'dba','jaipur');

insert into department values(5,'networking','jaipur');

insert into department values(6,'programming','jaipur');

alter table employee add constraint fk_dep_id foreign key (DEPID) references department(did);
```

output:

```
Table created.

row created.

Table altered.
```

Q4). Add a column(if not added) in department table (MgrID/SupID) which is Manger_id or supervisior_id which reference to EID of the Employee table.

Ans:

```
alter table employee add constraint pri_mgr foreign key (mgrid) references employee(eid);
```

output:

```
Table altered.
```

Q5). Create a student table and insert 10 records and use DELETE, TRUNCATE and DROP. Write difference between the commands.

Ans:

```
create table student(id number(2) primary key,name char(30));
insert into student values(1,'vikas');
insert into student values(2,'vijay');
insert into student values(3,'ritik');
insert into student values(4,'abhinav');
insert into student values(5,'parkash');
insert into student values(6,'suraj');
insert into student values(7,'devendera');
insert into student values(8,'harish');
insert into student values(9,'tanuj');
insert into student values(10,'rohit');
delete from student where id=7;
--delete recods with condition
--or
--delete from student;
--delete all recods
truncate table student;
--delete all recods
--not affect table schema

drop table student;
--drop table(remove) including all the recods
```

Q 6). Display all employee that belong to department no. 2 and 4 and explain about SELECT, FROM and WHERE clause.

Ans:

select fname ||''|| lname "name" ,depid from employee where depid in('2','4');

--select => used for select the entire row,s column(here we are selecting two column)

--from => used for tell the location/point select row/data from (here we telling employee table)

--where => used for conditional statement (here we are telling select only who are working in 2,4 department id)

output:

```
fname          lname          depid
-----------------------------------------
dev             raj             2
vijay           raj             2
ritik           raj             4
```

Q 7). Update employee salary by 10% whose salary <=15000.

Ans:

update employee set salary=salary + salary*(10/100) where salary <=15000; output:

1 row updated.

Q 8). Create a project table which contains project info. And the employee working on the project & also create Necessary relationship and handle multi valued dependencies

Ans:

```
create table project(id number(2) primary key,name char(30),location char(30)); insert into project values(1,'vista','jaipur');
```

```
insert into project values(2,'win11','jaipur'); insert into project values(3,'debian 12','jaipur');
```

```
create table pro_working(e_id number(2) references employee(eid),p_id number(2),foreign key(p_id)references project(id));
```

```
insert into pro_working values(1,2); insert into pro_working values(2,2); insert into pro_working values(2,1);
```

Output:

```
Table created.

row created.
```

Assignment – 2

Q 1). Display all the employees details that belongs to department 10.

Ans:

```
select * from employee where DEPID =10;
```

output:

EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE	JOB_ID	SALARY	COMMISION_PCT	MANAGER_ID
200	Jennifer	Whalen	Jwhalen	8883.9292.222	15-sep-87	AD_SF	4400	-	101

Q 2).Display all the employee who are getting salary between 12000 and 15000.

Ans :

```
select first_name ||' '|| last_name as name,salary from employees where salary between 12000
and 15000;
```

output:

Name	Salary
Nancy Greenberg	12000
John Russell	14000
Karen Partners	13500
Alberto Errazuriz	12000
Michael Hartstein	13000
Shelley Higgins	12000

6 rows selected.

Q 3). Display employee that are clerk and managed by e7698.

Ans :

select first_name ||' '|| last_name as name from employees where manager_id =7698;

output:

no rows selected.

Q 4). Display employee of department 10 and 30.

Ans:

select first_name ||' '|| last_name as name, department_id from employees where department_id in (10,30);

Output :

NAME	DEPARTMENT_ID
Jennifer Whalen	10
Den Raphaely	30
Alexander Khoo	30
Shelli Baida	30
Sigal Tobias	30
Guy Himuro	30
Karen Colmenares	30

7 rows selected

Q 5). Display employees those are not getting any commission.

Ans:

select distinct first_name ||' '|| last_name as name from employees where commission_pct is null;

output:

NAME
Lex De Haan
Nancy Greenberg
Shanta Vollman
…..
Alana Walsh

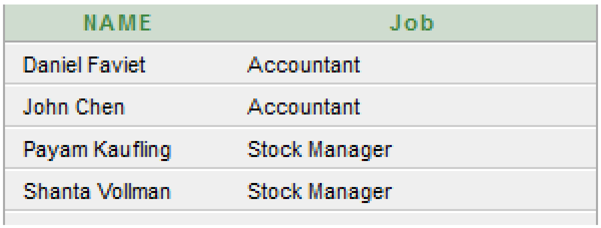
72 rows selected.

Q 6). Display all the employees name along with their jobs.

Ans:

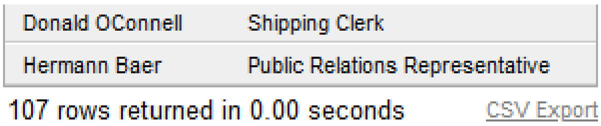
select distinct e.first_name ||' '|| e.last_name as name,j.job_title "job" from employees e,jobs j where e.job_id=j.job_id;

output:



```
NAME              Job
Daniel Faviet     Accountant
John Chen         Accountant
Payam Kaufling    Stock Manager
Shanta Vollman    Stock Manager
```

……..



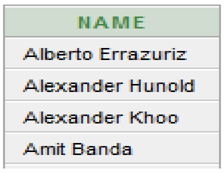
```
Donald OConnell   Shipping Clerk
Hermann Baer      Public Relations Representative
107 rows returned in 0.00 seconds        CSV Export
```

Q 7). Display all the employee name having "t" and "r" in their Names.

Ans:

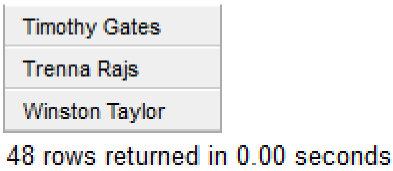
select first_name ||' '|| last_name as name from employees where first_name like '%t%' or first_name like '%r%' order by first_name;

output:



```
NAME
Alberto Errazuriz
Alexander Hunold
Alexander Khoo
Amit Banda
```

…..



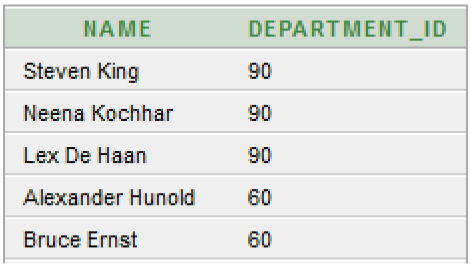
```
Timothy Gates
Trenna Rajs
Winston Taylor
48 rows returned in 0.00 seconds
```

Q 8). Display all the employees that are not in department 30.

Ans:

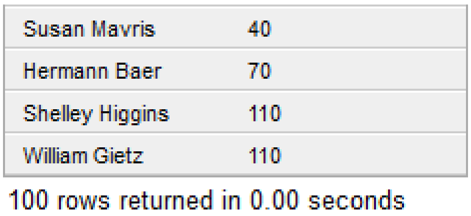
select first_name ||' '|| last_name as name,department_id from employees where not department_id=30;

output:



NAME	DEPARTMENT_ID
Steven King	90
Neena Kochhar	90
Lex De Haan	90
Alexander Hunold	60
Bruce Ernst	60

…….



Susan Mavris	40
Hermann Baer	70
Shelley Higgins	110
William Gietz	110

100 rows returned in 0.00 seconds

Q 9). Display department located in ”xxx”.

Ans.

select DEPARTMENT_NAME from DEPARTMENTS d, LOCATIONS l where d. LOCATION_ID = l.LOCATION_ID and l.CITY='xxx';

output:

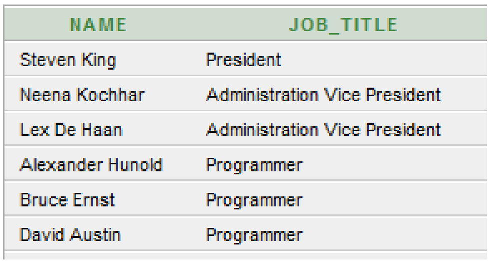
no data found.

Q 10). Display all employees who are not “salesman” and “clerk”.

Ans:

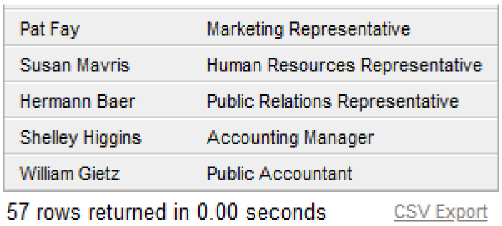
```
select first_name ||' '|| last_name as name,j.job_title from employees e,JOBS j where
e.JOB_ID=j.JOB_ID and j.job_title not like '%Clerk%' and j.job_title not like '%Sales Manager%';
```

output:



NAME	JOB_TITLE
Steven King	President
Neena Kochhar	Administration Vice President
Lex De Haan	Administration Vice President
Alexander Hunold	Programmer
Bruce Ernst	Programmer
David Austin	Programmer

……



Pat Fay	Marketing Representative
Susan Mavris	Human Resources Representative
Hermann Baer	Public Relations Representative
Shelley Higgins	Accounting Manager
William Gietz	Public Accountant

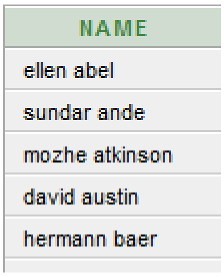
57 rows returned in 0.00 seconds CSV Export

Q 11). Display all the employees names in lowercase.

Ans:

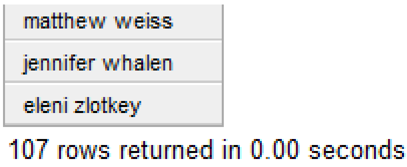
```
select lower(first_name) ||' '|| lower(last_name) as name from employees;
```

output:



NAME
ellen abel
sundar ande
mozhe atkinson
david austin
hermann baer

……



matthew weiss
jennifer whalen
eleni zlotkey

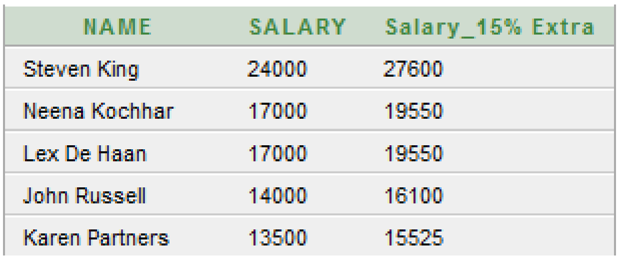
107 rows returned in 0.00 seconds

Q 12). List the employees name and salary increased by 15% and Expressed by a whole number.

Ans:

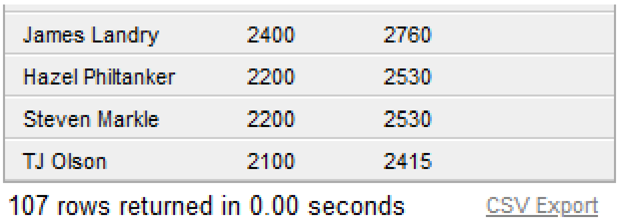
select first_name ||' '|| last_name as name,salary,abs(salary + salary * (15/100)) as "salary_15% extra" from employees order by salary desc;

output:



NAME	SALARY	Salary_15% Extra
Steven King	24000	27600
Neena Kochhar	17000	19550
Lex De Haan	17000	19550
John Russell	14000	16100
Karen Partners	13500	15525

....



James Landry	2400	2760
Hazel Philtanker	2200	2530
Steven Markle	2200	2530
TJ Olson	2100	2415

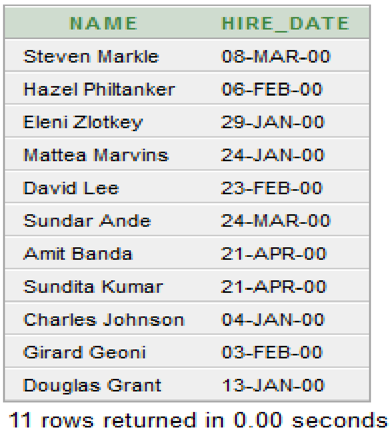
107 rows returned in 0.00 seconds CSV Export

Q 13). List all employees who joined after “01-jan-2000” and before “18-aug-2005”.

Ans:

select first_name ||' '|| last_name as name,HIRE_DATE from EMPLOYEES where HIRE_DATE between to_date('01-jan- 2000','dd mon yyyy') and to_date('18-aug-2005','dd mon yyyy');

output :



NAME	HIRE_DATE
Steven Markle	08-MAR-00
Hazel Philtanker	06-FEB-00
Eleni Zlotkey	29-JAN-00
Mattea Marvins	24-JAN-00
David Lee	23-FEB-00
Sundar Ande	24-MAR-00
Amit Banda	21-APR-00
Sundita Kumar	21-APR-00
Charles Johnson	04-JAN-00
Girard Geoni	03-FEB-00
Douglas Grant	13-JAN-00

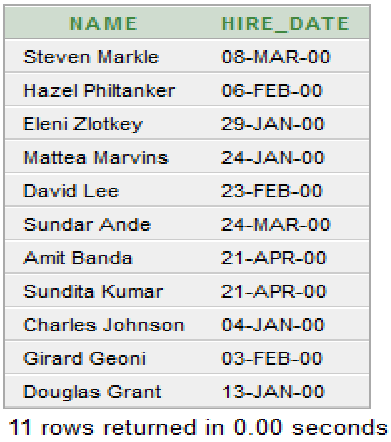
11 rows returned in 0.00 seconds

Q 14). Display the difference between highest and lowest salary For each department.

Ans:

select DEPARTMENT_ID,max(SALARY) as MAX_SALARY,min(SALARY) as MIN_SALARY,max(SALARY)-min(SALARY) as salary_diff from EMPLOYEES group by DEPARTMENT_ID order by DEPARTMENT_ID;

output:



NAME	HIRE_DATE
Steven Markle	08-MAR-00
Hazel Philtanker	06-FEB-00
Eleni Zlotkey	29-JAN-00
Mattea Marvins	24-JAN-00
David Lee	23-FEB-00
Sundar Ande	24-MAR-00
Amit Banda	21-APR-00
Sundita Kumar	21-APR-00
Charles Johnson	04-JAN-00
Girard Geoni	03-FEB-00
Douglas Grant	13-JAN-00

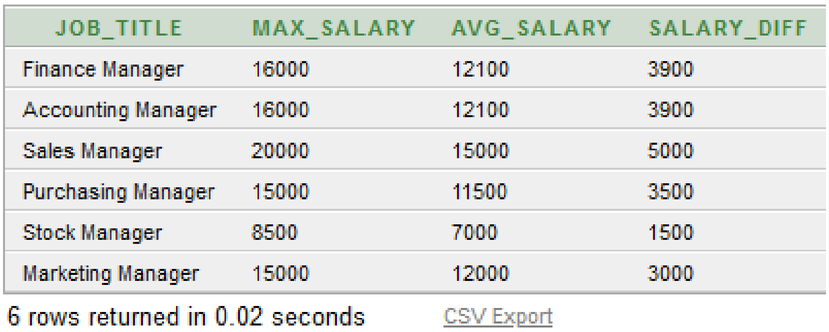
11 rows returned in 0.00 seconds

Q 15). List all jobs for manager and difference between average And maximum salary.

Ans:

select JOB_TITLE,MAX_SALARY,(MIN_SALARY+MAX_SALARY)/2 as avg_salary,MAX_SALARY-((MIN_SALARY+MAX_SALARY)/2) as salary_diff from jobs where JOB_TITLE like '%Manager%';

output:



JOB_TITLE	MAX_SALARY	AVG_SALARY	SALARY_DIFF
Finance Manager	16000	12100	3900
Accounting Manager	16000	12100	3900
Sales Manager	20000	15000	5000
Purchasing Manager	15000	11500	3500
Stock Manager	8500	7000	1500
Marketing Manager	15000	12000	3000

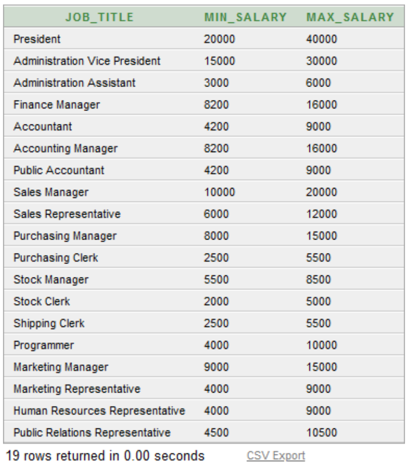
6 rows returned in 0.02 seconds

Q 16). Display minimum and maximum salary for each job type.

Ans:

select JOB_TITLE, MIN_SALARY, MAX_SALARY from jobs;

output:



JOB_TITLE	MIN_SALARY	MAX_SALARY
President	20000	40000
Administration Vice President	15000	30000
Administration Assistant	3000	6000
Finance Manager	8200	16000
Accountant	4200	9000
Accounting Manager	8200	16000
Public Accountant	4200	9000
Sales Manager	10000	20000
Sales Representative	6000	12000
Purchasing Manager	8000	15000
Purchasing Clerk	2500	5500
Stock Manager	5500	8500
Stock Clerk	2000	5000
Shipping Clerk	2500	5500
Programmer	4000	10000
Marketing Manager	9000	15000
Marketing Representative	4000	9000
Human Resources Representative	4000	9000
Public Relations Representative	4500	10500

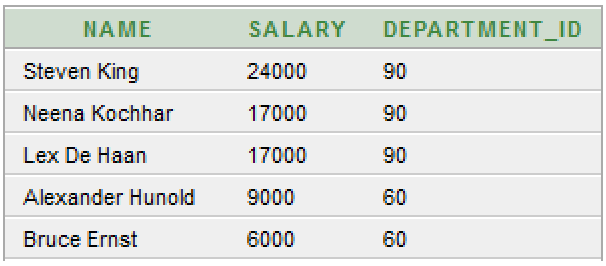
19 rows returned in 0.00 seconds   CSV Export

Q 17). Display the employees who earn more than the lowest Salary of department 30.

Ans:

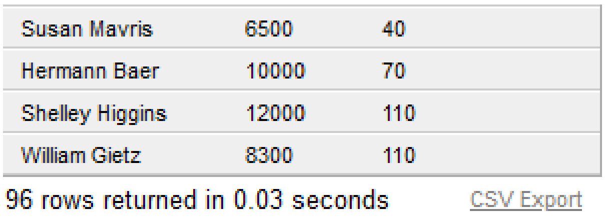
select e.first_name ||' '|| e.last_name as name, e.salary,e.DEPARTMENT_ID from EMPLOYEES e where salary > (select min(salary) from EMPLOYEES where DEPARTMENT_ID = 30);

output:



NAME	SALARY	DEPARTMENT_ID
Steven King	24000	90
Neena Kochhar	17000	90
Lex De Haan	17000	90
Alexander Hunold	9000	60
Bruce Ernst	6000	60

…….



Susan Mavris	6500	40
Hermann Baer	10000	70
Shelley Higgins	12000	110
William Gietz	8300	110

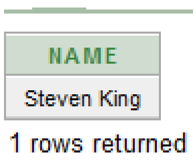
96 rows returned in 0.03 seconds   CSV Export

Q 18). Display all the employees who are not managed by anyone.

Ans:

select first_name ||' '|| last_name as name from EMPLOYEES where MANAGER_ID is NULL;

output:



NAME
Steven King

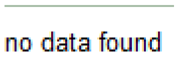
1 rows returned

Q 19). Display all the employees working in same Department on same post where "smith" is working.

Ans:

select e.first_name ||' '|| e.last_name as name,j.job_title,d.DEPARTMENT_NAME from EMPLOYEES e,jobs j,DEPARTMENTS d where e.job_id=j.job_id and e.DEPARTMENT_ID=d.DEPARTMENT_ID and e.DEPARTMENT_ID in(select DEPARTMENT_ID from EMPLOYEES where first_name like 'Smith') and e.JOB_ID in(select JOB_ID from EMPLOYEES where first_name like 'Smith');

output:



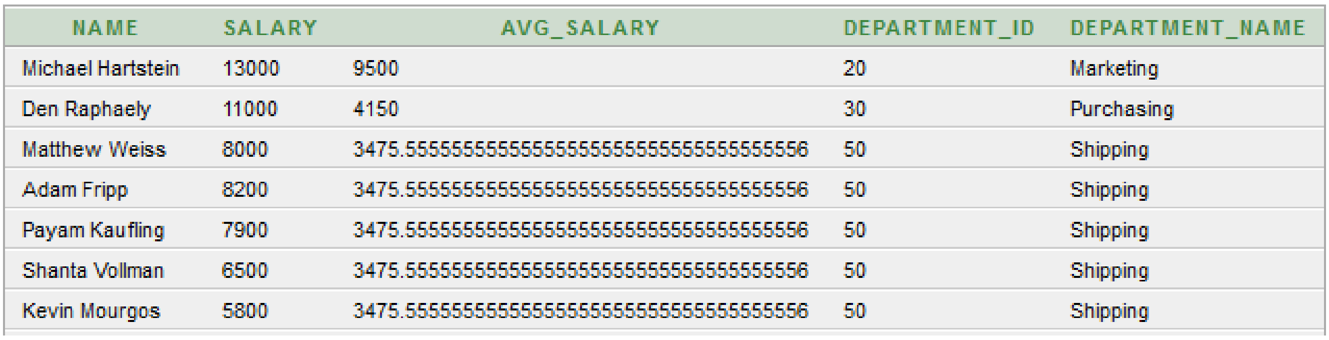
no data found

Q 20). List all the average salary for each department then find Out the employees who are getting more than that Average salary.

Ans:

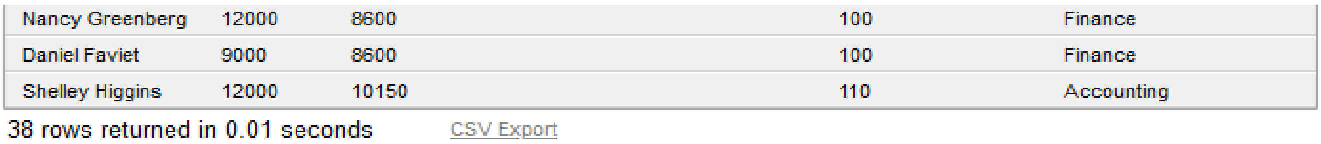
select e.first_name ||' '|| e.last_name as name, e.salary, s.avg_salary, e.DEPARTMENT_ID, d.DEPARTMENT_NAME from (select DEPARTMENT_ID,avg(salary) as avg_salary from employees group by DEPARTMENT_ID order by DEPARTMENT_ID) s,employees e,DEPARTMENTS d where e.DEPARTMENT_ID = s.DEPARTMENT_ID and e.DEPARTMENT_ID=d.DEPARTMENT_ID and e.salary > s.avg_salary order by e.DEPARTMENT_ID;

output:



NAME	SALARY	AVG_SALARY	DEPARTMENT_ID	DEPARTMENT_NAME
Michael Hartstein	13000	9500	20	Marketing
Den Raphaely	11000	4150	30	Purchasing
Matthew Weiss	8000	3475.5555555555555555555555555555555556	50	Shipping
Adam Fripp	8200	3475.5555555555555555555555555555555556	50	Shipping
Payam Kaufling	7900	3475.5555555555555555555555555555555556	50	Shipping
Shanta Vollman	6500	3475.5555555555555555555555555555555556	50	Shipping
Kevin Mourgos	5800	3475.5555555555555555555555555555555556	50	Shipping

……..



Nancy Greenberg	12000	8600	100	Finance
Daniel Faviet	9000	8600	100	Finance
Shelley Higgins	12000	10150	110	Accounting

38 rows returned in 0.01 seconds CSV Export

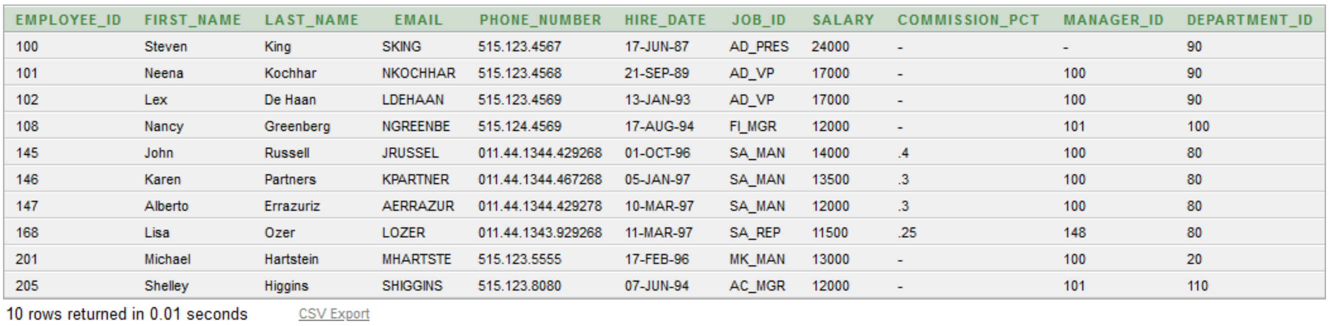
Assignment – 3

Q 1). Write a query in SQL to list the details of the employees whose salary is more than the salary of DEN.

Ans:

select * from employees where salary>(select salary from employees where first_name='Den');

output:



EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE	JOB_ID	SALARY	COMMISSION_PCT	MANAGER_ID	DEPARTMENT_ID
100	Steven	King	SKING	515.123.4567	17-JUN-87	AD_PRES	24000	-	-	90
101	Neena	Kochhar	NKOCHHAR	515.123.4568	21-SEP-89	AD_VP	17000	-	100	90
102	Lex	De Haan	LDEHAAN	515.123.4569	13-JAN-93	AD_VP	17000	-	100	90
108	Nancy	Greenberg	NGREENBE	515.124.4569	17-AUG-94	FI_MGR	12000	-	101	100
145	John	Russell	JRUSSEL	011.44.1344.429268	01-OCT-96	SA_MAN	14000	.4	100	80
146	Karen	Partners	KPARTNER	011.44.1344.467268	05-JAN-97	SA_MAN	13500	.3	100	80
147	Alberto	Errazuriz	AERRAZUR	011.44.1344.429278	10-MAR-97	SA_MAN	12000	.3	100	80
168	Lisa	Ozer	LOZER	011.44.1343.929268	11-MAR-97	SA_REP	11500	.25	148	80
201	Michael	Hartstein	MHARTSTE	515.123.5555	17-FEB-96	MK_MAN	13000	-	100	20
205	Shelley	Higgins	SHIGGINS	515.123.8080	07-JUN-94	AC_MGR	12000	-	101	110

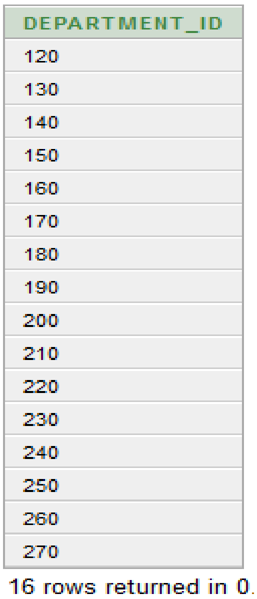
10 rows returned in 0.01 seconds CSV Export

Q 2). Write a query in SQL to list the department where there are no employees.

Ans:

select DEPARTMENT_ID from DEPARTMENTS where MANAGER_ID is null;

output:



DEPARTMENT_ID
120
130
140
150
160
170
180
190
200
210
220
230
240
250
260
270

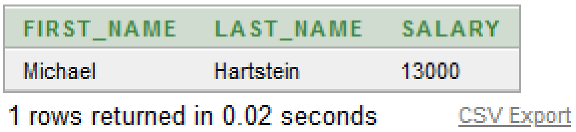
16 rows returned in 0.

Q 3). Write a query in SQL to find the highest paid employees in the department marketing.

Ans:

Select first_name, last_name, salary from employees where salary in (select max(salary) from employees where department_id in (select department_id from departments where department_name= 'Marketing')) ;

output:



FIRST_NAME	LAST_NAME	SALARY
Michael	Hartstein	13000

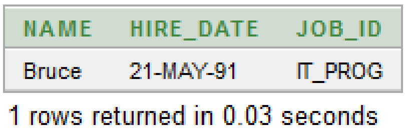
1 rows returned in 0.02 seconds

4). Write a query in SQL to list the employees who joined in 1991 in a designation same as the most senior person of the year 1991.

Ans:

SELECT first_name name,hire_date,job_id FROM employees WHERE job_id IN (SELECT job_id FROM employees WHERE hire_date IN (SELECT min(hire_date) FROM employees WHERE to_char (hire_date,'YYYY') ='1991')) and to_char(hire_date,'YYYY') ='1991';

output :



NAME	HIRE_DATE	JOB_ID
Bruce	21-MAY-91	IT_PROG

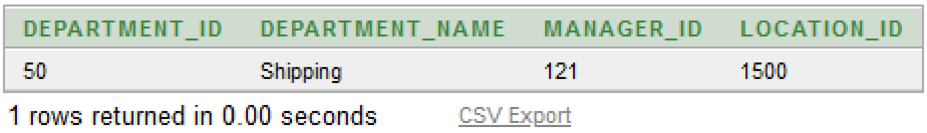
1 rows returned in 0.03 seconds

Q 5). Write a query in SQL to list the details of the departments where maximum number of employees working.

Ans:

select * from departments where department_id in(select department_id from employees group by department_id having count(*) in (select max(count1) from (select count(*) count1 from employees group by department_id)));

output:



DEPARTMENT_ID	DEPARTMENT_NAME	MANAGER_ID	LOCATION_ID
50	Shipping	121	1500

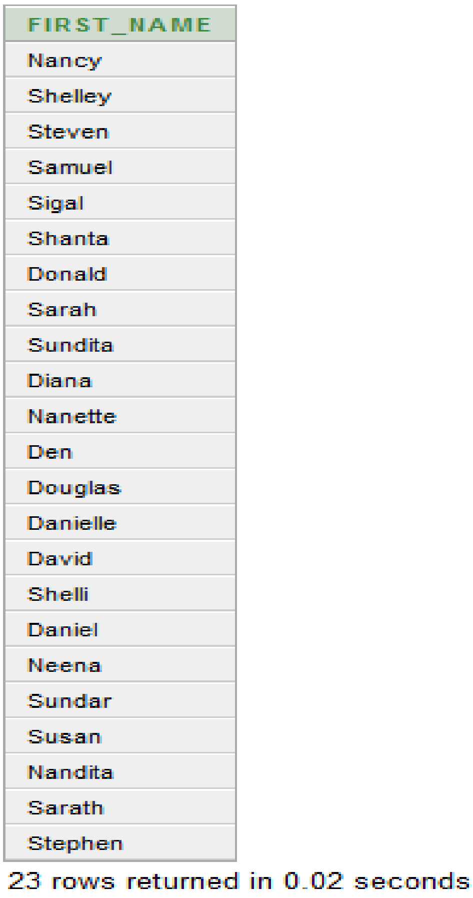
1 rows returned in 0.00 seconds CSV Export

Q 6). Display all the information of all employees who have the letters D, S, or N in their first name and arrange the result in descending order by salary.

Ans:

select distinct first_name from employees where first_name like '%S%' or first_name like '%N%' or first_name like '%D%';

output:



FIRST_NAME
Nancy
Shelley
Steven
Samuel
Sigal
Shanta
Donald
Sarah
Sundita
Diana
Nanette
Den
Douglas
Danielle
David
Shelli
Daniel
Neena
Sundar
Susan
Nandita
Sarath
Stephen

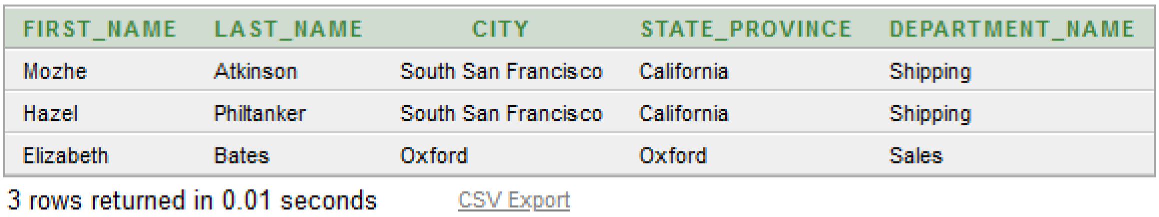
23 rows returned in 0.02 seconds

Q 7). Display those employees who contain a letter z to their first name and also display their last name, department, city, and state province.

Ans:

select e.first_name,e.last_name,l.city,l.state_province,d.department_name from employees e,locations l,departments d where e.department_id=d.department_id AND l.location_id =d.location_id AND e.first_name like '%z%';

output:



FIRST_NAME	LAST_NAME	CITY	STATE_PROVINCE	DEPARTMENT_NAME
Mozhe	Atkinson	South San Francisco	California	Shipping
Hazel	Philtanker	South San Francisco	California	Shipping
Elizabeth	Bates	Oxford	Oxford	Sales

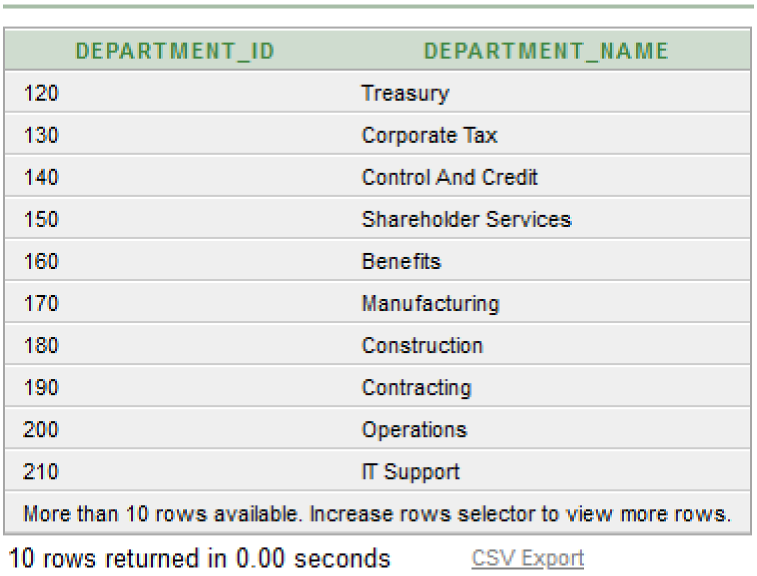
3 rows returned in 0.01 seconds   CSV Export

Q 8). Display all departments including those where does not have any employee.

Ans:

select d.department_id,d.department_name from departments d where MANAGER_ID is null;

output:



DEPARTMENT_ID	DEPARTMENT_NAME
120	Treasury
130	Corporate Tax
140	Control And Credit
150	Shareholder Services
160	Benefits
170	Manufacturing
180	Construction
190	Contracting
200	Operations
210	IT Support

More than 10 rows available. Increase rows selector to view more rows.

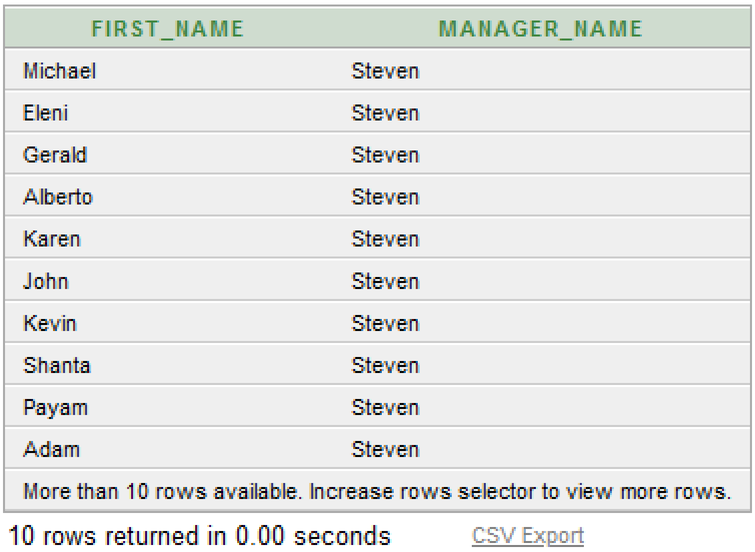
10 rows returned in 0.00 seconds   CSV Export

Q 9). Write a query in SQL to display the first name of all employees including the first name of their manager.

Ans:

select e1.first_name,e2.first_name manager_name from employees e1,employees e2 where e2.employee_id=e1.manager_id;

output:



FIRST_NAME	MANAGER_NAME
Michael	Steven
Eleni	Steven
Gerald	Steven
Alberto	Steven
Karen	Steven
John	Steven
Kevin	Steven
Shanta	Steven
Payam	Steven
Adam	Steven
More than 10 rows available. Increase rows selector to view more rows.	

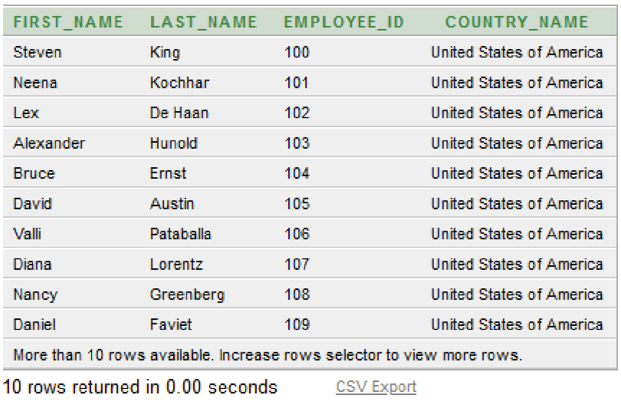
10 rows returned in 0.00 seconds   CSV Export

Q 10). Display the full name of employee with ID and present country where (s)he is working.

Ans:

select e.first_name,e.last_name,e.employee_id,c.country_name from employees e,departments d,locations l,countries c where e.department_id=d.department_id and d.location_id= l.location_id and l.country_id=c.country_id;

output:



FIRST_NAME	LAST_NAME	EMPLOYEE_ID	COUNTRY_NAME
Steven	King	100	United States of America
Neena	Kochhar	101	United States of America
Lex	De Haan	102	United States of America
Alexander	Hunold	103	United States of America
Bruce	Ernst	104	United States of America
David	Austin	105	United States of America
Valli	Pataballa	106	United States of America
Diana	Lorentz	107	United States of America
Nancy	Greenberg	108	United States of America
Daniel	Faviet	109	United States of America
More than 10 rows available. Increase rows selector to view more rows.			

10 rows returned in 0.00 seconds   CSV Export

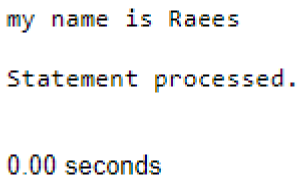
Assignment – 4

Q 1). Create a PL/SQL program to show your name on the console.

Ans:

```
DECLARE

name varchar2(20):= 'Raees';

BEGIN

dbms_output.put_line('my name is ' || name);

END;
```

Output:



```
my name is Raees

Statement processed.

0.00 seconds
```

Q 2). With the help of example the following

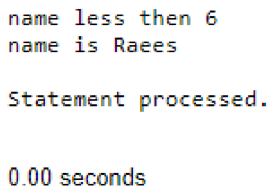
i). If and else statement

Ans:

```
DECLARE

name varchar2(20):= 'Raees';

BEGIN

if LENGTH(name)>5 then

  dbms_output.put_line('name greather then 5');

else

  dbms_output.put_line('name less then 6');
```

```
END IF;

  dbms_output.put_line('name is '|| name);

END;
```

Output:



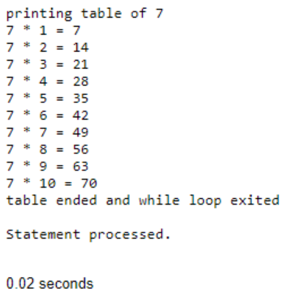
```
name less then 6
name is Raees

Statement processed.


0.00 seconds
```

ii). Loop...endloop with while

Ans:

```
DECLARE

 i number(2):=1;

BEGIN

dbms_output.put_line('printing table of 7 ');

WHILE i <11

LOOP

dbms_output.put_line('7 * '|| i || ' = ' || 7*i);

i:=i+1;

END LOOP;

dbms_output.put_line('table ended and while loop exited ');

END;
```

Output:



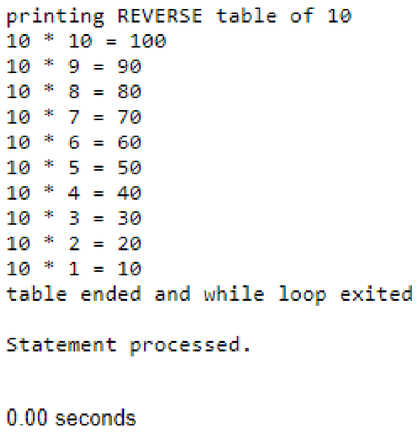
```
printing table of 7
7 * 1 = 7
7 * 2 = 14
7 * 3 = 21
7 * 4 = 28
7 * 5 = 35
7 * 6 = 42
7 * 7 = 49
7 * 8 = 56
7 * 9 = 63
7 * 10 = 70
table ended and while loop exited

Statement processed.

0.02 seconds
```

iii) Loop...endloop with for

Ans:

```
DECLARE

BEGIN

dbms_output.put_line('printing REVERSE table of 10 ');

FOR z IN REVERSE 1..10

LOOP

dbms_output.put_line('10 * '|| z || ' = ' || 10*z);

END LOOP;

dbms_output.put_line('table ended and while loop exited ');

END;
```

Output:



```
printing REVERSE table of 10
10 * 10 = 100
10 * 9 = 90
10 * 8 = 80
10 * 7 = 70
10 * 6 = 60
10 * 5 = 50
10 * 4 = 40
10 * 3 = 30
10 * 2 = 20
10 * 1 = 10
table ended and while loop exited

Statement processed.

0.00 seconds
```

Q 3). Explain the following Transaction control in PL/SQL.

i)SAVEPOINT

ii)COMMIT

iii)ROLLBACK

Ans:

```
DECLARE

--cust_id test_bank.cust_id%TYPE:=1;

--tr_amount test_bank.bal%TYPE:=50000;

--tr_amount test_bank.bal%TYPE;

 tr id transaction.id%TYPE:=2;

tr_send_cust_id transaction.send_cust_id%TYPE:=3;

 tr_res_cust_id transaction.send_cust_id%TYPE:=2;

 tr_amount transaction.amount%TYPE:=50000;

 tr_send_cust_amount transaction.amount%TYPE;

--tr.tr_time=CURRENT_TIMESTAMP;

BEGIN

SAVEPOINT tr_start;

--cust_id:=&cust_id;

select bal into tr_send_cust_amount from test_bank where cust_id=tr_send_cust_id;

if tr_send_cust_amount>=50000 then

update test_bank set bal=bal-tr_amount where cust_id=tr_send_cust_id;

insert into transaction values
(tr_id.nextval,tr_send_cust_id,tr_res_cust_id,tr_amount,CURRENT_TIMESTAMP);

update test_bank set bal=bal+tr_amount where cust_id=tr_res_cust_id;
dbms_output.put_line('transaction has done successfully');

else

dbms_output.put_line('transaction failed due to low balence');

end if;
```

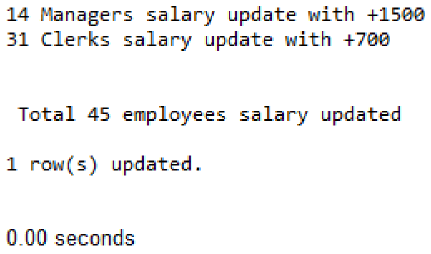
```
SAVEPOINT test_roll;
insert into test_bank values(6,'test_roll',60000.70);
ROLLBACK TO test_roll; commit;
insert into test_bank values(6,'test_roll',60000.70);
ROLLBACK;
--insert into test_bank values(10,'test_roll',60000.70);
--commit;
--ROLLBACK;
--truncate table transaction;
END;
```

Q 4). Write a program to show the use of implicit cursor.

Ans:

```
DECLARE

data number(3);

BEGIN

update EMPLOYEES set SALARY=SALARY + 1500 where JOB_ID in (select JOB_ID from JOBS where job_title like '%Manager%');

data:=sql%rowcount;

dbms_output.put_line(sql%rowcount || ' Managers salary update with +1500 ');

update EMPLOYEES set SALARY=SALARY + 700 where JOB_ID in (select JOB_ID from JOBS where job_title like '%Clerk%');

dbms_output.put_line(sql%rowcount-data ||' Clerks salary update with +700 ');
DBMS_OUTPUT.NEW_LINE;

DBMS_OUTPUT.NEW_LINE;

dbms_output.put_line(' Total '|| sql%rowcount || ' employees salary updated ');

END;
```

Output:



```
14 Managers salary update with +1500
31 Clerks salary update with +700


 Total 45 employees salary updated

1 row(s) updated.

0.00 seconds
```

Q 5). Write a program to show the use of explicit cursor.

Ans:

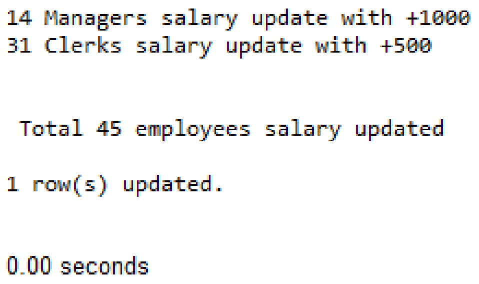
```
DECLARE
c_id test_bank.cust_id%type;
c_name test_bank.name%type;
c_bal test_bank.bal%type;
CURSOR c_customers is
SELECT cust_id, name, bal FROM test_bank order by cust_id;
BEGIN
OPEN c_customers;
LOOP
FETCH c_customers into c_id, c_name, c_bal;
EXIT WHEN c_customers%notfound;
dbms_output.put_line(c_id || ' ' || c_name || ' ' || c_bal);
END LOOP;
DBMS_OUTPUT.NEW_LINE; DBMS_OUTPUT.NEW_LINE;
dbms_output.put_line(c_customers%rowcount ||' row selected ');
CLOSE c_customers;
END;
```

Q 6). Create a PL/SQL program to raise salary of manager by 1000 and salary of clerk by 500.

Ans:

```
DECLARE

data number(3);

BEGIN

update EMPLOYEES set SALARY=SALARY + 1000 where JOB_ID in (select JOB_ID from JOBS where job_title like '%Manager%');

data:=sql%rowcount;

dbms_output.put_line(sql%rowcount || ' Managers salary update with +1000 ');

update EMPLOYEES set SALARY=SALARY + 500 where JOB_ID in (select JOB_ID from JOBS where job_title like '%Clerk%');

dbms_output.put_line(sql%rowcount-data ||' Clerks salary update with +500 ');
DBMS_OUTPUT.NEW_LINE;

DBMS_OUTPUT.NEW_LINE;

dbms_output.put_line(' Total '|| sql%rowcount || ' employees salary updated ');

END;
```

Output:



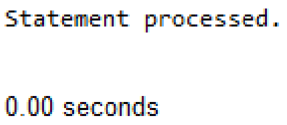
```
14 Managers salary update with +1000
31 Clerks salary update with +500


 Total 45 employees salary updated

1 row(s) updated.


0.00 seconds
```

Q 7). Create a PL/SQL program to check data type or size error and generate a exception is required.

Ans.

```
DECLARE

num number(3);

BEGIN

num:=4d; exception

WHEN INVALID_NUMBER THEN

DBMS_OUTPUT.PUT_LINE ('INVALID_NUMBER like 3g,2345csd');


WHEN VALUE_ERROR THEN

DBMS_OUTPUT.PUT_LINE ('VALUE_ERROR like wqed,sdfs,er4');


WHEN OTHERS THEN

dbms_output.put_line(SQLERRM); END;
```

Output:



```
Statement processed.

0.00 seconds
```