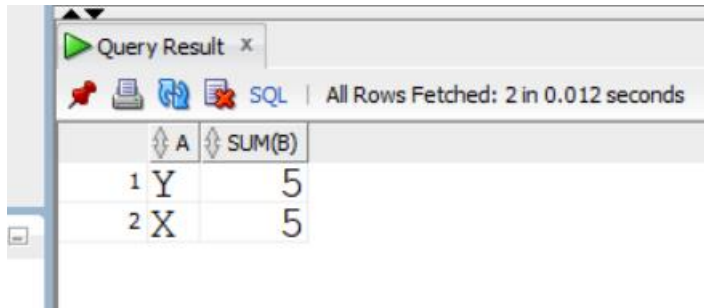


Rasul Khanbayov

GGUSA3

Exercise 1

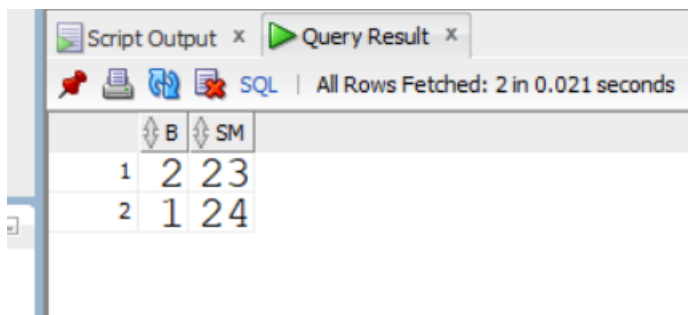
1. select A, sum(B) from (select distinct A, B from nikovits.R) group by A;



The screenshot shows a 'Query Result' window with a table containing two columns: 'A' and 'SUM(B)'. There are two rows of data. The first row has 'Y' under 'A' and '5' under 'SUM(B)'. The second row has 'X' under 'A' and '5' under 'SUM(B)'. The status bar indicates 'All Rows Fetched: 2 in 0.012 seconds'.

	A	SUM(B)
1	Y	5
2	X	5

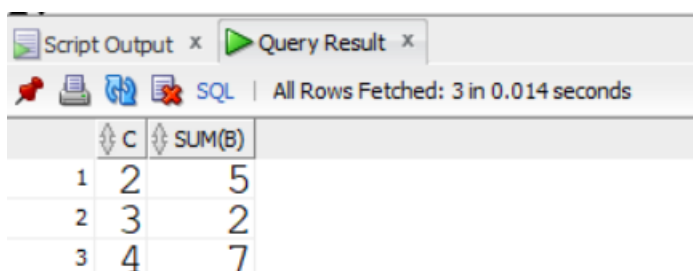
2. select B, sum(D) sm from nikovits.R natural join nikovits.S group by B
having avg(D) < 13 and sum(D) < 50 order by sm;



The screenshot shows a 'Query Result' window with a table containing two columns: 'B' and 'SM'. There are two rows of data. The first row has '2' under 'B' and '23' under 'SM'. The second row has '1' under 'B' and '24' under 'SM'. The status bar indicates 'All Rows Fetched: 2 in 0.021 seconds'.

	B	SM
1	2	23
2	1	24

3. select nikovits.R.C ,sum(B) from nikovits.R,(select distinct C from nikovits.S) S
where nikovits.R.C = S.C group by nikovits.R.C;



The screenshot shows a 'Query Result' window with a table containing two columns: 'C' and 'SUM(B)'. There are three rows of data. The first row has '2' under 'C' and '5' under 'SUM(B)'. The second row has '3' under 'C' and '2' under 'SUM(B)'. The third row has '4' under 'C' and '7' under 'SUM(B)'. The status bar indicates 'All Rows Fetched: 3 in 0.014 seconds'.

	C	SUM(B)
1	2	5
2	3	2
3	4	7

Exercise 2

Tmp1 =

π fruits Likes

-

π fruits σ name = 'Kanga' Likes

π name, fruits (Likes \bowtie Tmp1)

π name, fruits (Likes \bowtie (π fruits Likes - π fruits σ name = 'Kanga' Likes))

Likes.name	Likes.fruits
'Piglet'	'pear'
'Piglet'	'raspberry'
'Winnie'	'pear'
'Tiger'	'pear'

Exercise 3

select dname from nikovits.dept,

(select deptno d from nikovits.emp, nikovits.sal_cat

where sal between lowest_sal and highest_sal group by deptno

having count(distinct nikovits.sal_cat.category) >= 3)

where d = dept.deptno;

```
select dname from nikovits.dept,
(select deptno d from nikovits.emp, nikovits.sal_cat
where sal between lowest_sal and highest_sal group by deptno
having count(distinct nikovits.sal_cat.category) >= 3)
where d = dept.deptno;
```

Script Output x Query Result x	
All Rows Fetched: 3 in 0.012 seconds	
DNAME	
1 ACCOUNTING	
2 SALES	
3 MARKETING	

Exercise 4

select man.ename from nikovits.emp man, nikovits.emp sub where man.empno = sub.mgr
group by man.ename having count(distinct to_char(sub.hiredate, 'yyyy')) >= 2;

```
select man.ename from nikovits.emp man, nikovits.emp sub where man.empno = sub.mgr
group by man.ename having count(distinct to_char(sub.hiredate, 'yyyy')) >= 2;
```

Script Output x Query Result x	
All Rows Fetched: 2 in 0.016 seconds	
ENAME	
1 JONES	
2 COOK	

Exercise 5

select distinct j job, dname, cnt num_of_emps from nikovits.dept, nikovits.emp,
(select job j, count(ename) cnt from nikovits.emp natural join nikovits.dept group by job
having count(distinct deptno) = 1)
where j = job and dept.deptno = emp.deptno;

```
select distinct j job, dname, cnt num_of_emps from nikovits.dept, nikovits.emp,
(select job j, count(ename) cnt from nikovits.emp natural join nikovits.dept group by job
having count(distinct deptno) = 1)
where j = job and dept.deptno = emp.deptno;
```

Script Output x

Query Result x

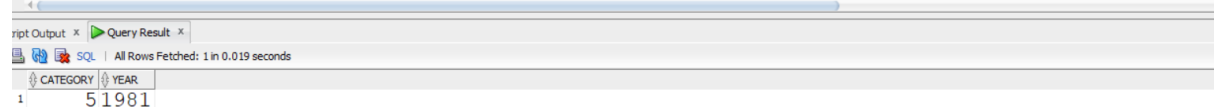
All Rows Fetched: 2 in 0.02 seconds

JOB	DNAME	NUM_OF_EMPS
1 ANALYST	RESEARCH	2
2 PRESIDENT	ACCOUNTING	1

Exercise 6

select distinct category, to_char(hiredate, 'yyyy') year from nikovits.emp, nikovits.sal_cat
where sal between lowest_sal and highest_sal and category in
(select category from nikovits.emp, nikovits.sal_cat
where sal between lowest_sal and highest_sal group by category
having count(distinct to_char(hiredate, 'yyyy')) = 1);

```
-- Exercise 6
select distinct category, to_char(hiredate, 'yyyy') year from nikovits.emp, nikovits.sal_cat
where sal between lowest_sal and highest_sal and category in
(select category from nikovits.emp, nikovits.sal_cat
where sal between lowest_sal and highest_sal group by category
having count(distinct to_char(hiredate, 'yyyy')) = 1);
```

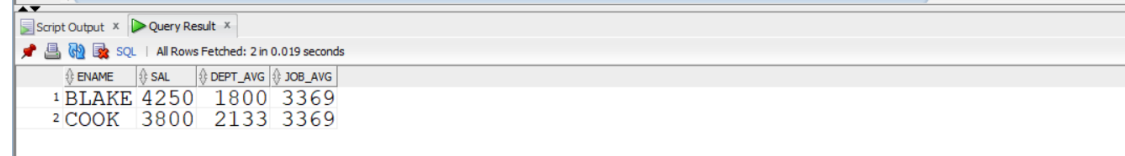


CATEGORY	YEAR
1	1981

Exercise 7

with
deptAvg as
(select deptno d, round(avg(sal)) dept_avg from nikovits.emp group by deptno),
jobAvg as
(select job j, round(avg(sal)) job_avg from nikovits.emp group by job)
select ename, sal, dept_avg, job_avg from nikovits.emp, deptAvg, jobAvg
where sal > dept_avg and sal > job_avg and j = job and d = deptno;

```
-- Exercise 7
with
deptAvg as
(select deptno d, round(avg(sal)) dept_avg from nikovits.emp group by deptno),
jobAvg as
(select job j, round(avg(sal)) job_avg from nikovits.emp group by job)
select ename, sal, dept_avg, job_avg from nikovits.emp, deptAvg, jobAvg
where sal > dept_avg and sal > job_avg and j = job and d = deptno;
```



ENAME	SAL	DEPT_AVG	JOB_AVG
1 BLAKE	4250	1800	3369
2 COOK	3800	2133	3369