`

Aim: Implementation of Analytical queries like ROLL_UP and CUBE

Q1. Find the total profit dept wise.

Query:

```
select dept,sum(profit)as total
from sale
group by dept
```

output:

DEPT	TOTAL
pen_sales	530000
book_sales	594000

Download CSV

2 rows selected.

`

Q2. Find the total profit dept wise along with grand total.

Query:

```
select sum(profit)as total,dept
from sale
group by  rollup(dept);
```

Output:

TOTAL	DEPT
594000	book_sales
530000	pen_sales
1124000	-

Download CSV

3 rows selected.

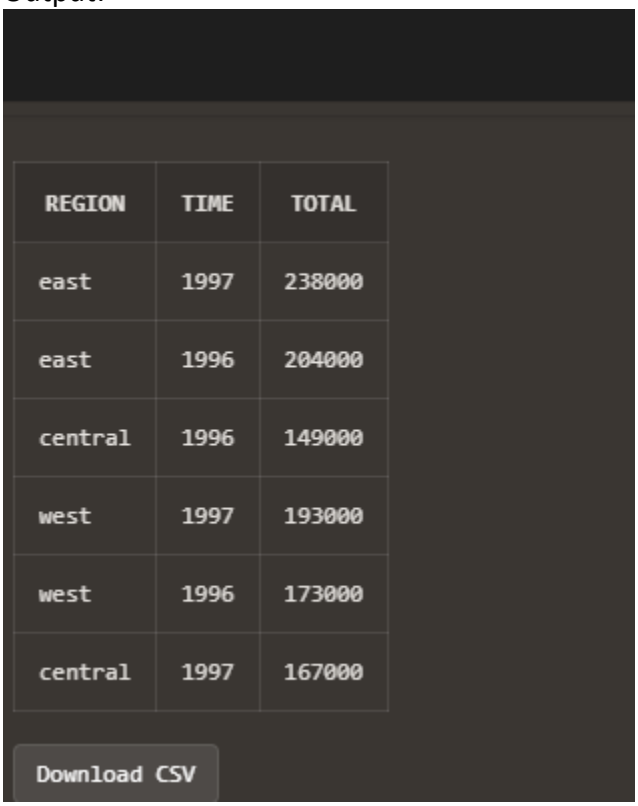
`

Q3. Find the total profit, time_ and region wise.

Query :

```
select region,time,sum(profit)as total
from sale
group by region,time
```

Output:



REGION	TIME	TOTAL
east	1997	238000
east	1996	204000
central	1996	149000
west	1997	193000
west	1996	173000
central	1997	167000

Download CSV

`

Q4. Find the total profit time_, region wise along with time_ wise total and grand total.

Query:

```
select region,time,sum(profit)as total
from sale
group by rollup(time,region)
```

output:

REGION	TIME	TOTAL
east	1996	204000
west	1996	173000
central	1996	149000
-	1996	526000
east	1997	238000
west	1997	193000
central	1997	167000
-	1997	598000
-	-	1124000

`

Q5. Find the total profit time_, region wise along with region wise total and grand total.

Query:
```
select region,time,sum(profit)as total
from sale
group by rollup(region,time)
```

Output:

REGION	TIME	TOTAL
east	1996	204000
east	1997	238000
east	-	442000
west	1996	173000
west	1997	193000
west	-	366000
central	1996	149000
central	1997	167000
central	-	316000
-	-	1124000

Download CSV

10 rows selected.

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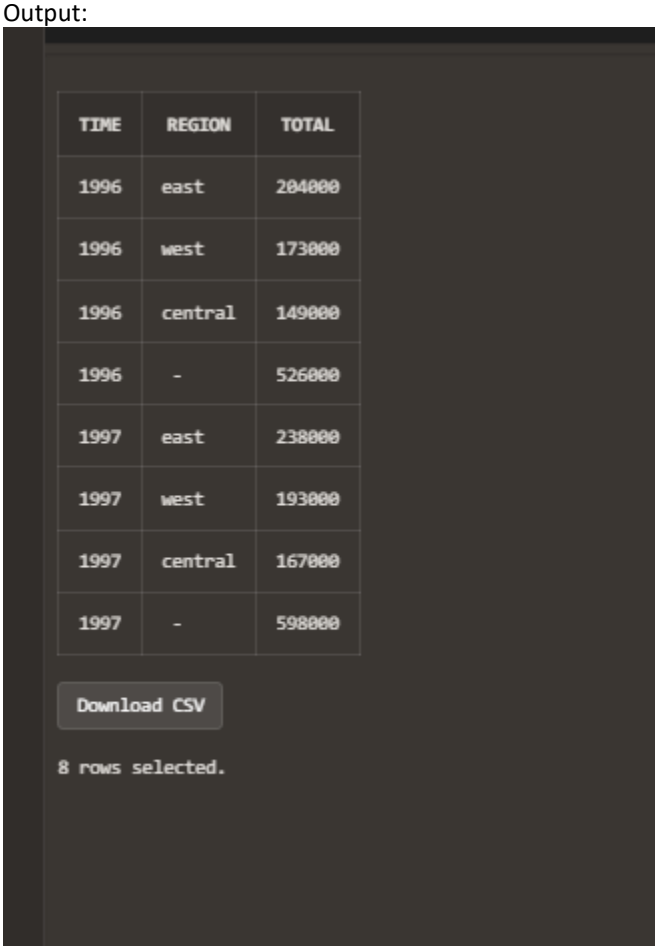
Q6. Find the total profit time_, region wise along with time_ wise total only.

Query:
select time,region,sum(profit) as total
from sale
group by time,rollup(region)
Output:



TIME	REGION	TOTAL
1996	east	204000
1996	west	173000
1996	central	149000
1996	-	526000
1997	east	238000
1997	west	193000
1997	central	167000
1997	-	598000

Download CSV

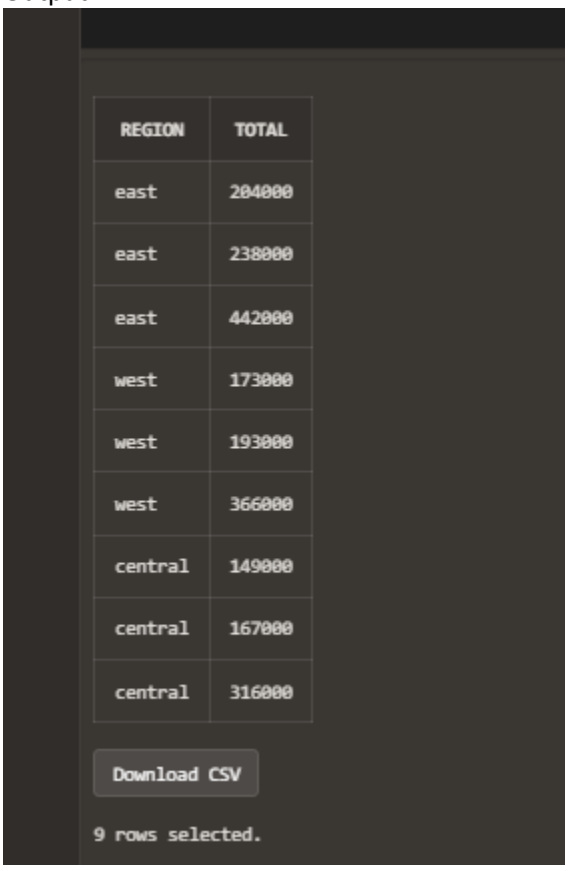
8 rows selected.

`

Q7. Find the total profit region, time_ wise along with region wise total only.

Query:
```
select region,sum(profit)as total
from sale
group by region,rollup(time)
```

Output:



REGION	TOTAL
east	204000
east	238000
east	442000
west	173000
west	193000
west	366000
central	149000
central	167000
central	316000

Download CSV

9 rows selected.

`

Q8. Find the total profit, time_, dept, region wise along with time_ wise total, time_ and dept wise total and grand total

Query:

```
select dept,region,time,sum(profit)as total
from sale
group by rollup(time,dept,region)
```

Output:

`

DEPT	REGION	TIME	TOTAL
pen_sales	east	1996	89000
pen_sales	west	1996	87000
pen_sales	central	1996	75000
pen_sales	-	1996	251000
book_sales	east	1996	115000
book_sales	west	1996	86000
book_sales	central	1996	74000
book_sales	-	1996	275000
-	-	1996	526000
pen_sales	east	1997	101000
pen_sales	west	1997	96000
pen_sales	central	1997	82000
pen_sales	-	1997	279000
book_sales	east	1997	137000
book_sales	west	1997	97000
book_sales	central	1997	85000
book_sales	-	1997	319000
-	-	1997	598000
-	-	-	1124000

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Q9. Find the total profit time_, dept, region wise along with dept wise total, dept and region wise total and grand total

query:
select dept,region,time,sum(profit)as total
from sale
group by rollup(dept,region,time)

output:

`

DEPT	REGION	TIME	TOTAL
pen_sales	east	1996	89000
pen_sales	east	1997	101000
pen_sales	east	-	190000
pen_sales	west	1996	87000
pen_sales	west	1997	96000
pen_sales	west	-	183000
pen_sales	central	1996	75000
pen_sales	central	1997	82000
pen_sales	central	-	157000
pen_sales	-	-	530000
book_sales	east	1996	115000
book_sales	east	1997	137000
book_sales	east	-	252000
book_sales	west	1996	86000
book_sales	west	1997	97000
book_sales	west	-	183000
book_sales	central	1996	74000
book_sales	central	1997	85000
book_sales	central	-	159000
book_sales	-	-	594000
-	-	-	1124000

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Q10. Find the total profit time_, dept, region wise along with dept wise, dept and time_ wise total and grand total.

Query:

```
select dept,region,time,sum(profit)as total
from sale
group by rollup(dept,region,time)
```

output:

`

DEPT	REGION	TIME	TOTAL
pen_sales	east	1996	89000
pen_sales	east	1997	101000
pen_sales	east	-	190000
pen_sales	west	1996	87000
pen_sales	west	1997	96000
pen_sales	west	-	183000
pen_sales	central	1996	75000
pen_sales	central	1997	82000
pen_sales	central	-	157000
pen_sales	-	-	530000
book_sales	east	1996	115000
book_sales	east	1997	137000
book_sales	east	-	252000
book_sales	west	1996	86000
book_sales	west	1997	97000
book_sales	west	-	183000
book_sales	central	1996	74000
book_sales	central	1997	85000
book_sales	central	-	159000
book_sales	-	-	594000
-	-	-	1124000

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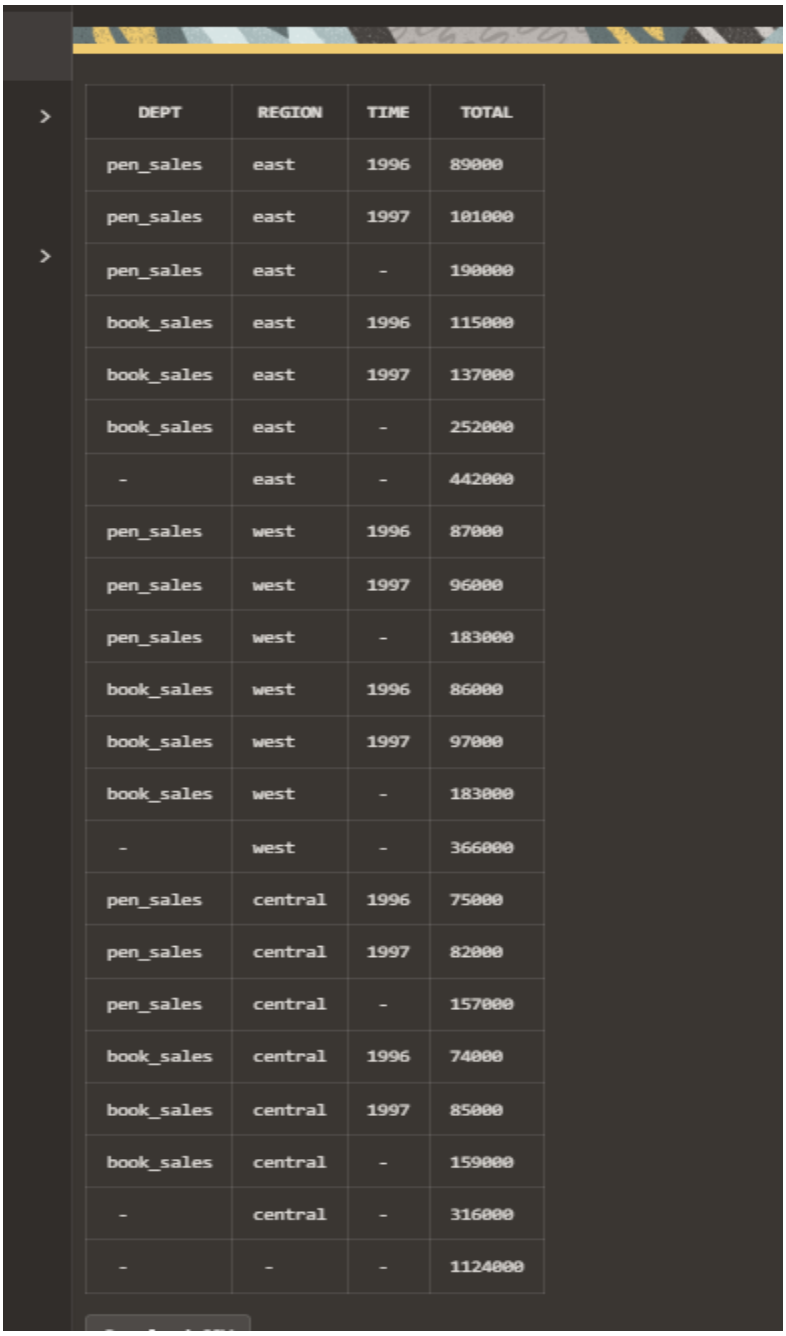
Q11. Find the total profit time_, dept, region wise along with region wise, region and time_,wise total and grand total

Query:

```
select dept,region,time,sum(profit)as total
from sale
group by rollup(region,dept,time)
```

Output:

`



DEPT	REGION	TIME	TOTAL
pen_sales	east	1996	89000
pen_sales	east	1997	101000
pen_sales	east	-	190000
book_sales	east	1996	115000
book_sales	east	1997	137000
book_sales	east	-	252000
-	east	-	442000
pen_sales	west	1996	87000
pen_sales	west	1997	96000
pen_sales	west	-	183000
book_sales	west	1996	86000
book_sales	west	1997	97000
book_sales	west	-	183000
-	west	-	366000
pen_sales	central	1996	75000
pen_sales	central	1997	82000
pen_sales	central	-	157000
book_sales	central	1996	74000
book_sales	central	1997	85000
book_sales	central	-	159000
-	central	-	316000
-	-	-	1124000

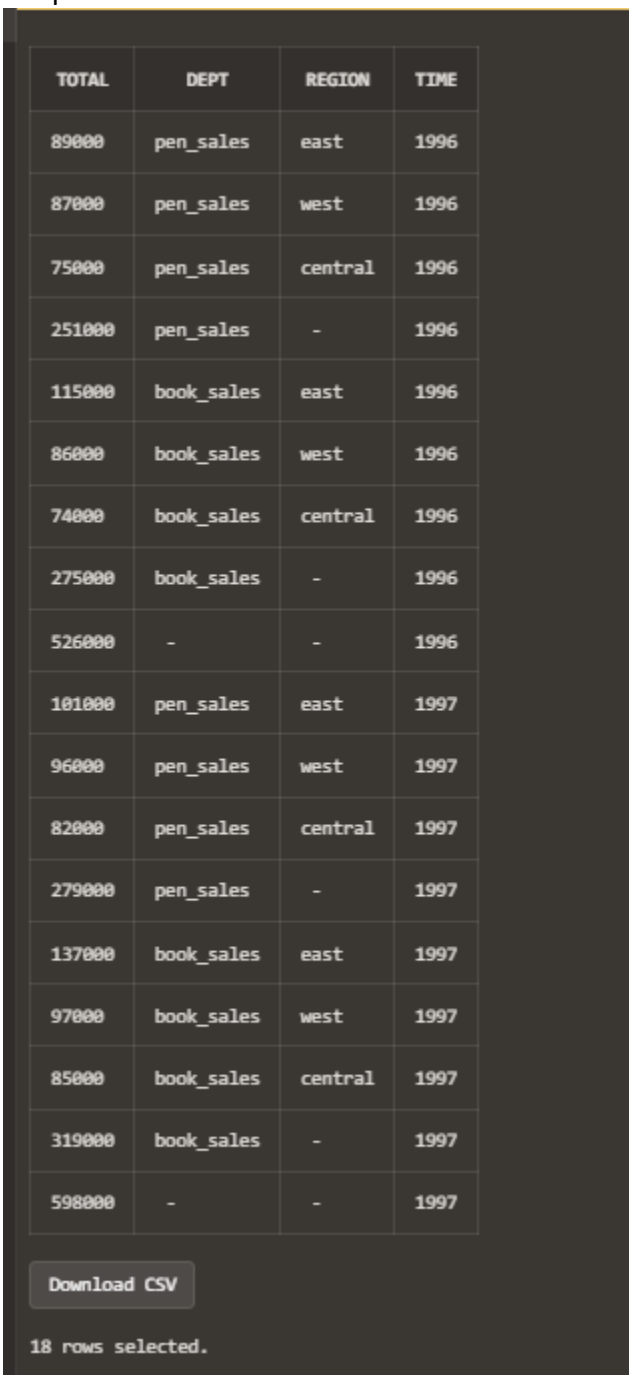
Q12. Find the total profit time_, dept, region wise along with time_ wise, time_ &dept wise total.

Query:
select sum(profit)as total,dept,region,time

from sale

`

group by time,rollup(dept,region)
Output:



TOTAL	DEPT	REGION	TIME
89000	pen_sales	east	1996
87000	pen_sales	west	1996
75000	pen_sales	central	1996
251000	pen_sales	-	1996
115000	book_sales	east	1996
86000	book_sales	west	1996
74000	book_sales	central	1996
275000	book_sales	-	1996
526000	-	-	1996
101000	pen_sales	east	1997
96000	pen_sales	west	1997
82000	pen_sales	central	1997
279000	pen_sales	-	1997
137000	book_sales	east	1997
97000	book_sales	west	1997
85000	book_sales	central	1997
319000	book_sales	-	1997
598000	-	-	1997

Download CSV

18 rows selected.

Q13. Find the total profit time_, dept, region wise along with dept wise, time_ &dept wise total.

Query:

select time,dept,sum(profit)as total

from sale

`

group by dept,rollup(time,region)
Output:

TIME	DEPT	TOTAL
1996	pen_sales	89000
1996	pen_sales	87000
1996	pen_sales	75000
1996	pen_sales	251000
1997	pen_sales	101000
1997	pen_sales	96000
1997	pen_sales	82000
1997	pen_sales	279000
-	pen_sales	530000
1996	book_sales	115000
1996	book_sales	86000
1996	book_sales	74000
1996	book_sales	275000
1997	book_sales	137000
1997	book_sales	97000
1997	book_sales	85000
1997	book_sales	319000
-	book_sales	594000

Download CSV

18 rows selected.

Q14. Find the total profit time_, dept, region wise along with time_ wise, time_ & region wise total.
Query:

select time,dept,region,sum(profit)as total

from sale

`

group by time,rollup(region,dept)
Output:

TIME	DEPT	REGION	TOTAL
1996	pen_sales	east	89000
1996	book_sales	east	115000
1996	-	east	204000
1996	pen_sales	west	87000
1996	book_sales	west	86000
1996	-	west	173000
1996	pen_sales	central	75000
1996	book_sales	central	74000
1996	-	central	149000
1996	-	-	526000
1997	pen_sales	east	101000
1997	book_sales	east	137000
1997	-	east	238000
1997	pen_sales	west	96000
1997	book_sales	west	97000
1997	-	west	193000
1997	pen_sales	central	82000
1997	book_sales	central	85000
1997	-	central	167000
1997	-	-	598000

Download CSV

20 rows selected.

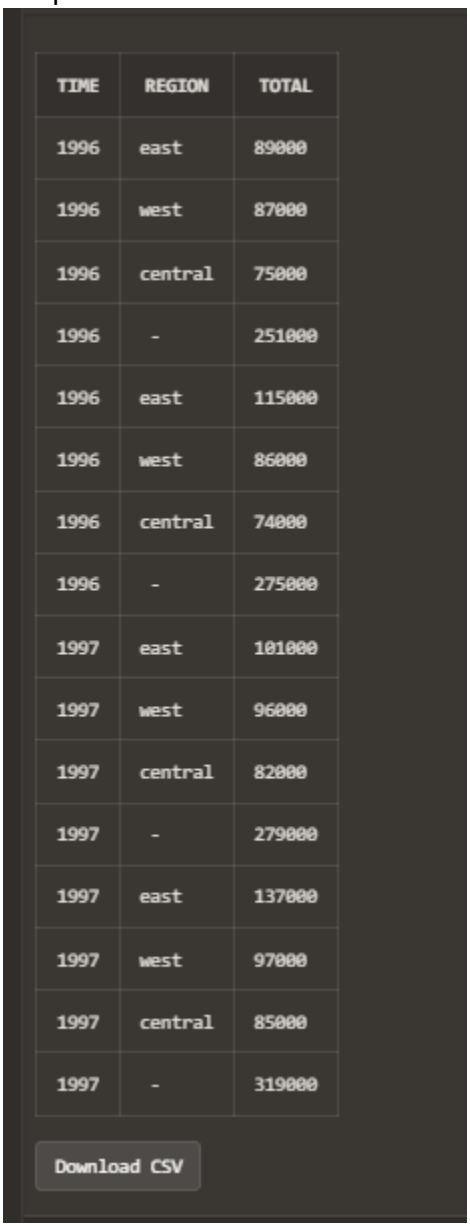
Q15. Find the total profit time_, dept, region wise along with time_ & dept wise total.
Query:

select time,region,sum(profit)as total

from sale

`

group by time,dept,rollup(region)
Output:



TIME	REGION	TOTAL
1996	east	89000
1996	west	87000
1996	central	75000
1996	-	251000
1996	east	115000
1996	west	86000
1996	central	74000
1996	-	275000
1997	east	101000
1997	west	96000
1997	central	82000
1997	-	279000
1997	east	137000
1997	west	97000
1997	central	85000
1997	-	319000

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Q16. Find out total sales (time_, region, dept wise), (time_, region wise), (time_, dept wise), (region, dept wise), (region wise), (dept wise), (time_ wise), total sales irrespective of time_, region and dept.

Query:

select time,region,sum(profit)as total

`

from sale

group by cube(time,dept,region)
Output:

TIME	REGION	TOTAL
-	-	1124000
-	east	442000
-	west	366000
-	central	316000
-	-	530000
-	east	190000
-	west	183000
-	central	157000
-	-	594000
-	east	252000
-	west	183000
-	central	159000
1996	-	526000
1996	east	204000
1996	west	173000
1996	central	149000
1996	-	251000
1996	east	89000
1996	west	87000
1996	central	75000
1996	-	275000
1996	east	115000
1996	west	86000

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1996	central	74000
1997	-	598000
1997	east	238000
1997	west	193000
1997	central	167000
1997	-	279000
1997	east	101000
1997	west	96000
1997	central	82000
1997	-	319000
1997	east	137000
1997	west	97000
1997	central	85000

Download CSV

36 rows selected.

`

17. Find out total sales (time_, region, dept wise), (time_, region wise), (time_, dept wise), total sales irrespective of region and dept.
Query:

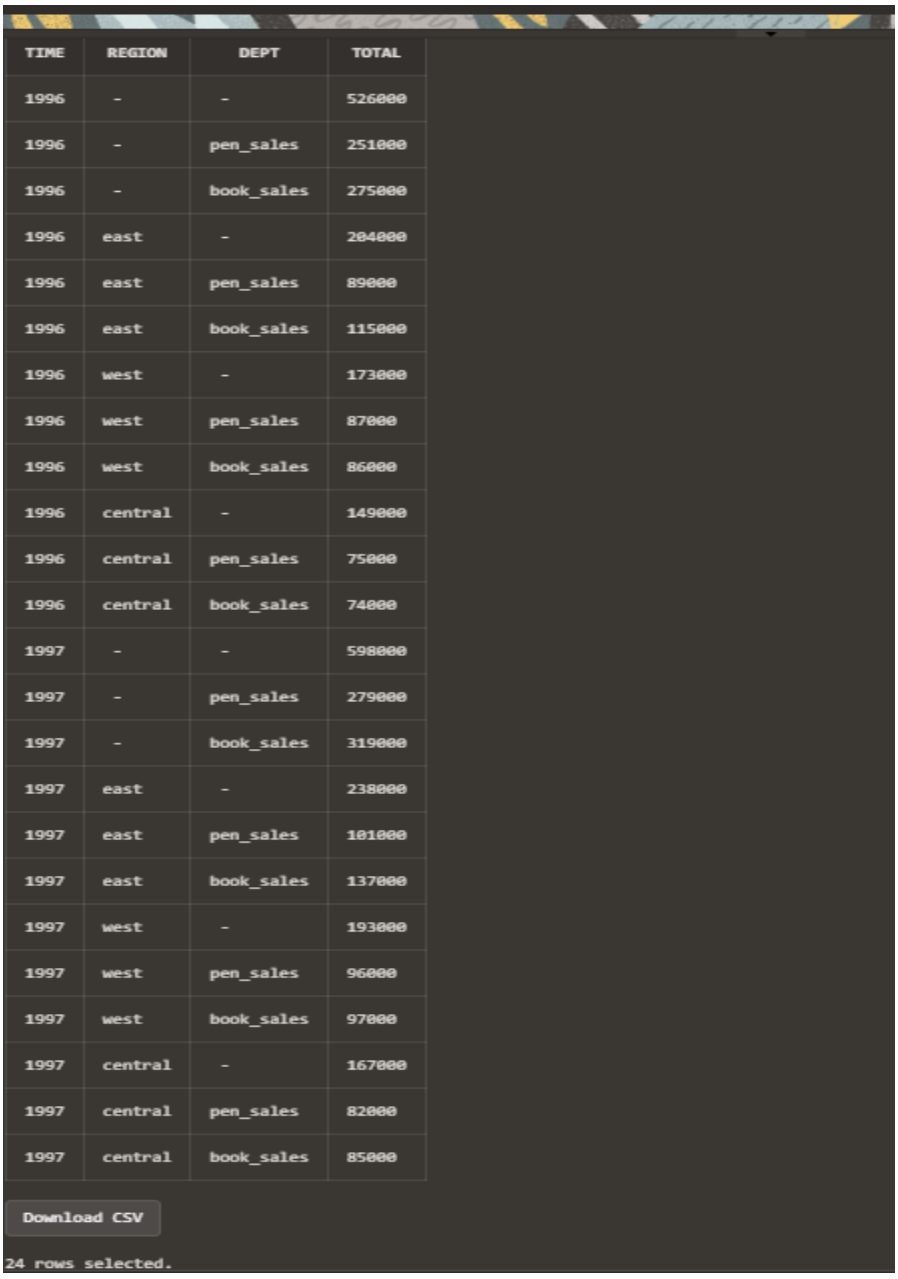
```
select time,region,dept,sum(profit)as total

from sale

group by time,cube(region,dept)
```

Output:

`



TIME	REGION	DEPT	TOTAL
1996	-	-	526000
1996	-	pen_sales	251000
1996	-	book_sales	275000
1996	east	-	204000
1996	east	pen_sales	89000
1996	east	book_sales	115000
1996	west	-	173000
1996	west	pen_sales	87000
1996	west	book_sales	86000
1996	central	-	149000
1996	central	pen_sales	75000
1996	central	book_sales	74000
1997	-	-	598000
1997	-	pen_sales	279000
1997	-	book_sales	319000
1997	east	-	238000
1997	east	pen_sales	101000
1997	east	book_sales	137000
1997	west	-	193000
1997	west	pen_sales	96000
1997	west	book_sales	97000
1997	central	-	167000
1997	central	pen_sales	82000
1997	central	book_sales	85000

Download CSV

24 rows selected.

Q18. Find out total sales (time_, region, dept wise), (region, time_ wise), (region, dept wise), total sales irrespective of time_ and dept.
Querry:

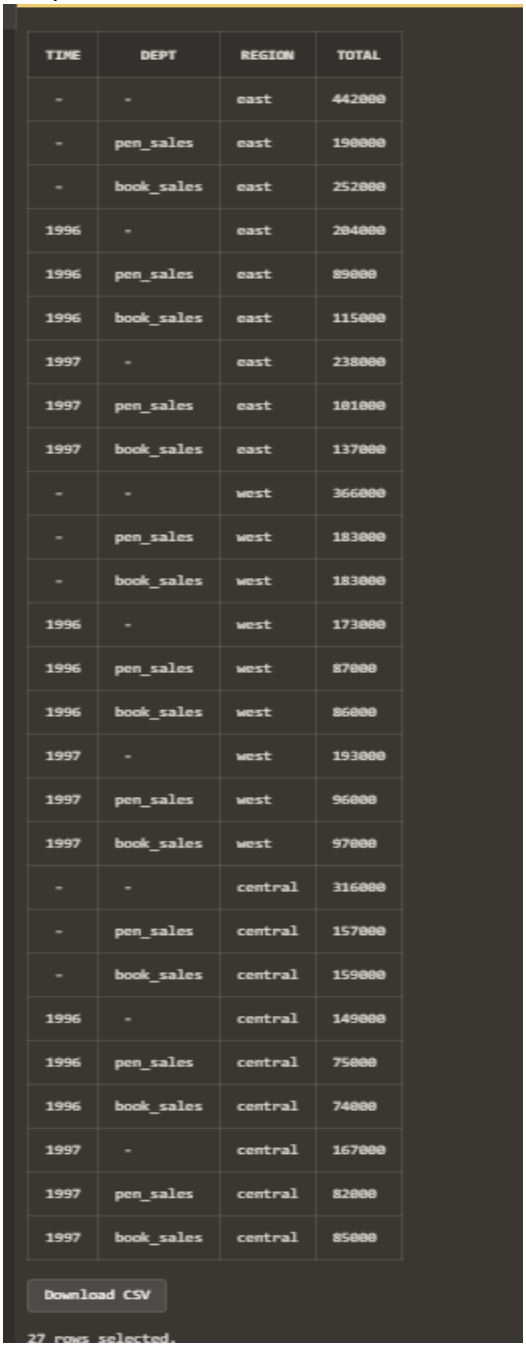
select time ,dept,region,sum(profit)as total

from sale

group by region,cube(time,dept)

`

Output:



TIME	DEPT	REGION	TOTAL
-	-	east	442000
-	pen_sales	east	190000
-	book_sales	east	252000
1996	-	east	204000
1996	pen_sales	east	89000
1996	book_sales	east	115000
1997	-	east	238000
1997	pen_sales	east	101000
1997	book_sales	east	137000
-	-	west	366000
-	pen_sales	west	183000
-	book_sales	west	183000
1996	-	west	173000
1996	pen_sales	west	87000
1996	book_sales	west	86000
1997	-	west	193000
1997	pen_sales	west	96000
1997	book_sales	west	97000
-	-	central	316000
-	pen_sales	central	157000
-	book_sales	central	159000
1996	-	central	149000
1996	pen_sales	central	75000
1996	book_sales	central	74000
1997	-	central	167000
1997	pen_sales	central	82000
1997	book_sales	central	85000

Download CSV

27 rows selected.

Q19. Find out total sales (time_, region, dept wise), (dept, time_ wise).
Query:

select time,dept,region,sum(profit)as total

from sale

group by time,dept,cube(region)
Output:

`

TIME	DEPT	REGION	TOTAL
1996	pen_sales	-	251000
1996	pen_sales	east	89000
1996	pen_sales	west	87000
1996	pen_sales	central	75000
1996	book_sales	-	275000
1996	book_sales	east	115000
1996	book_sales	west	86000
1996	book_sales	central	74000
1997	pen_sales	-	279000
1997	pen_sales	east	101000
1997	pen_sales	west	96000
1997	pen_sales	central	82000
1997	book_sales	-	319000
1997	book_sales	east	137000
1997	book_sales	west	97000
1997	book_sales	central	85000

Download CSV

16 rows selected.

Conclusion: All the queries have been implemented successfully and executed as per the requirement.