

U2M2.LW.Advanced Grouping

Shkrabatouskaya Vera

https://github.com/VeraShkrabatouskaya/DataMola_Data-Camping-2022

2. Business analyses tasks – Reports

2.1. Task 01: CREATE Daily Reports Layouts

Create table SA_TRANSACTION.

The screenshot shows the SQL Workbench interface. At the top, a code editor window displays the creation of the SA_TRANSACTION table, which joins three tables: SA_CUSTOMER_DATA_total, SA_EMPLOYEE_DATA, and SA_PROMOTION_DATA. The table is ordered by TOTAL_ID. Below this is a 'Script Output' window showing the command and a message indicating the task completed in 2.08 seconds. The main query window at the bottom shows the first 50 rows of the SA_TRANSACTION table, which lists various purchases from Samsung Electronics to different addresses in New Jersey, United States, with their respective customer details like name, city, country, email, and office phone number.

TOTAL_ID	TIME_ID	CUSTOMER_NAME	BRAND_NAME	CUSTOMER_ADDRESS	CUSTOMER_CITY	CUSTOMER_COUNTRY	CUSTOMER_EMAIL	CUSTOMER_PHONE
1	1 01-JAN-22	Samsung Electronics	SAMSUNG	85 Challenger Rd. Ridgefield Park New Jersey	Ridgefield Park New Jersey	United States	www.facebook.com/SamsungUS 1-201-229-4000	
2	2 01-JAN-22	Samsung Electronics	SAMSUNG	85 Challenger Rd. Ridgefield Park New Jersey	Ridgefield Park New Jersey	United States	www.facebook.com/SamsungUS 1-201-229-4000	
3	3 01-JAN-22	Samsung Electronics	SAMSUNG	85 Challenger Rd. Ridgefield Park New Jersey	Ridgefield Park New Jersey	United States	www.facebook.com/SamsungUS 1-201-229-4000	
4	4 01-JAN-22	Samsung Electronics	SAMSUNG	85 Challenger Rd. Ridgefield Park New Jersey	Ridgefield Park New Jersey	United States	www.facebook.com/SamsungUS 1-201-229-4000	
5	5 01-JAN-22	Samsung Electronics	SAMSUNG	85 Challenger Rd. Ridgefield Park New Jersey	Ridgefield Park New Jersey	United States	www.facebook.com/SamsungUS 1-201-229-4000	
6	6 01-JAN-22	Samsung Electronics	SAMSUNG	85 Challenger Rd. Ridgefield Park New Jersey	Ridgefield Park New Jersey	United States	www.facebook.com/SamsungUS 1-201-229-4000	
7	7 01-JAN-22	Samsung Electronics	SAMSUNG	85 Challenger Rd. Ridgefield Park New Jersey	Ridgefield Park New Jersey	United States	www.facebook.com/SamsungUS 1-201-229-4000	
8	8 01-JAN-22	Samsung Electronics	SAMSUNG	85 Challenger Rd. Ridgefield Park New Jersey	Ridgefield Park New Jersey	United States	www.facebook.com/SamsungUS 1-201-229-4000	
9	9 01-JAN-22	Samsung Electronics	SAMSUNG	85 Challenger Rd. Ridgefield Park New Jersey	Ridgefield Park New Jersey	United States	www.facebook.com/SamsungUS 1-201-229-4000	

Let's create a selection that takes into account all measurable business budgets.

The screenshot shows the SQL Workbench interface with a more complex query in the editor. This query calculates various financial metrics for each transaction, including cost without VAT, VAT amount, agency fee amount, and employee salary project amounts, taking into account distinct promotion prices and agency fees. The results are displayed in a 'Query Result' window below, showing three rows of data with columns for PROMOTION_METRIC_AMOUNT, PROMOTION_PRICE, COST_OF_PLACEMENT_WITHOUT_VAT, PROMOTION_DISTINCT_PERCENT, COST_WITHOUT_VAT_WITH_DISCOUNT, AGENCY_VAT_PERCENT, and VAT_AMOUNT.

PROMOTION_METRIC_AMOUNT	PROMOTION_PRICE	COST_OF_PLACEMENT_WITHOUT_VAT	PROMOTION_DISTINCT_PERCENT	COST_WITHOUT_VAT_WITH_DISCOUNT	AGENCY_VAT_PERCENT	VAT_AMOUNT
58	154	8932	11	7949.48	15	1192.42
93	363	33759	10	30383.1	25.8	7838.84
17	288	4896	14	4210.56	20	842.11

Code:

```

select
    total_id,
    agency_name,
    agency_city,
    agency_country,
    promotion_media_type,
    promotion_KPI,
    promotion_metric_amount,
    promotion_price,
    (promotion_metric_amount*promotion_price) as cost_of_placement_without_VAT,
    promotion_distinct_percent,
    ROUND((promotion_metric_amount*promotion_price*(1-promotion_distinct_percent/100)),2) as cost_without_VAT_with_discount,
    agency_VAT_percent,
    ROUND(((promotion_metric_amount*promotion_price*(1-promotion_distinct_percent/100))*agency_VAT_percent/100),2) as VAT_amount,
    ROUND(((promotion_metric_amount*promotion_price*(1-promotion_distinct_percent/100))+(
    (promotion_metric_amount*promotion_price*(1-promotion_distinct_percent/100))*agency_VAT_percent/100)),2) as
    cost_with_VAT_with_discount,
    agency_fee_percent,
    ROUND(((promotion_metric_amount*promotion_price*(1-promotion_distinct_percent/100))*agency_fee_percent/100),2) as
    agency_fee_amount_without_VAT,
    ROUND(((promotion_metric_amount*promotion_price*(1-
    promotion_distinct_percent/100))*agency_fee_percent/100)*(1+agency_VAT_percent/100),2) as agency_fee_amount_with_VAT,
    ROUND(((promotion_metric_amount*promotion_price*(1-
    promotion_distinct_percent/100)))+((promotion_metric_amount*promotion_price*(1-
    promotion_distinct_percent/100))*agency_fee_percent/100)),2) as
    total_cost_without_VAT_with_discount_with_agency_fee_amount_without_VAT,
    ROUND(((promotion_metric_amount*promotion_price*(1-promotion_distinct_percent/100))+(
    (promotion_metric_amount*promotion_price*(1-
    promotion_distinct_percent/100))*agency_VAT_percent/100)))+(((promotion_metric_amount*promotion_price*(1-
    promotion_distinct_percent/100))*agency_fee_percent/100)*(1+agency_VAT_percent/100)),2) as
    total_cost_with_VAT_with_discount_with_agency_fee_amount_with_VAT,
    employee_salary_project as employee_salary_project_without_VAT,
    ROUND(employee_salary_project*(1+ agency_VAT_percent/100),2) as employee_salary_project_with_VAT
from SA_TRANSACTION
ORDER BY 1
OFFSET 0 ROWS FETCH NEXT 5 ROWS ONLY;

```

Creation of daily reports layouts in excel.

	A	B	C	D	E	F	G	H	I	J	K
1	daily/ monthly	agency_name	agency_city	agency_country	Revenue, Gross, \$	Revenue, Net, \$	Cost, Gross, \$	Cost, Net, \$	Profit, Gross, \$	Profit, Net, \$	
2											
3	daily		customer_name	brand_name	Revenue, Gross, \$	Revenue, Net, \$	Cost, Gross, \$	Cost, Net, \$	Profit, Gross, \$	Profit, Net, \$	
5	monthly	agency_name	customer_name	brand_name	Revenue, Gross, \$	Revenue, Net, \$	Cost, Gross, \$	Cost, Net, \$	Profit, Gross, \$	Profit, Net, \$	
6											
7	daily			promotion_media_type	Revenue, Gross, \$	Revenue, Net, \$	Cost, Gross, \$	Cost, Net, \$	Profit, Gross, \$	Profit, Net, \$	

2.2. Task 02: CREATE Monthly Reports Layouts

Creation of monthly reports layouts in excel.

	A	B	C	D	E	F	G	H	I	J	K
9	monthly	customer_name	brand_name	promotion_media_type	Revenue, Gross, \$	Revenue, Net, \$	Cost, Gross, \$	Cost, Net, \$	Profit, Gross, \$	Profit, Net, \$	
10											
11	monthly	agency_city	employee_first_name	employee_last_name	Salary, Gross, \$	Salary, Net, \$					
12											
13	monthly	brand_name	agency_city	promotion_media_type	Number of promotions						
14											
15	monthly	agency_name	agency_city	agency_country	Number of customers						
16											
17	monthly	agency_name	agency_city	agency_country	Number of employees						

3. Advanced Grouping tasks – Reports

3.1. Task 03: CREATE Test AdHoc SQL - Daily Reports (CUBE)

Let's will calculate Daily Reports (According report layouts on task 01).

- USE: CUBE Extension

The screenshot shows a SQL worksheet interface with a query editor and a results grid. The query is a complex SELECT statement using CUBE to group data by TIME_ID, agency_name, agency_city, and agency_country. It calculates various financial metrics like Revenue_GROSS, Cost_GROSS, and Profit_NET. The results grid displays 19 rows of data for Starcom offices in various countries.

TIME_ID	AGENCY_NAME	AGENCY_CITY	AGENCY_COUNTRY	REVENUE_GROSS	REVENUE_NET	COST_GROSS	COST_NET	PROFIT_GROSS	PROFIT_NET
10 01~JAN~22	Starcom	Nicosia	Cyprus	227397.77	191090.55	37150.61	31219	190247.16	159871.55
11 01~JAN~22	Starcom	Paris	France	70787.62	58909.7	35724	29770	35063.62	29219.67
12 01~JAN~22	Starcom	Shanghai	China	160110.81	141690.98	36009.71	31867	124101.1	109823.98
13 01~JAN~22	Starcom	Sydney	Australia	37006.21	29416.76	39391.77	31313	-2385.5	-1896.26
14 01~JAN~22	Starcom	Warsaw	Poland	254136	206614.62	36775.77	29899	217360.23	176715.62
15 01~JAN~22	Starcom	Zurich	Switzerland	55048	51112.43	34364.97	31908	20683.13	19204.43
16 02~JAN~22	Starcom	Barcelona	Spain	289953.39	239630.93	35650.23	29463	254303.16	210167.93
17 02~JAN~22	Starcom	Berlin	Germany	92690.8	77891.43	37156.56	31224	55534.24	46667.43
18 02~JAN~22	Starcom	Cairo	Egypt	148211.29	130009.96	34213.68	30012	113997.61	99997.94
19 02~JAN~22	Starcom	Dubai	UAE	122643.22	116803.09	32053.35	30527	90589.87	86276.09

Code:

```
select
    TIME_ID,
    agency_name,
    agency_city,
    agency_country,
    SUM(ROUND(((promotion_metric_amount*promotion_price*(1-
promotion_distinct_percent/100))*agency_fee_percent/100)*(1+agency_VAT_percent/100),2)) as Revenue_GROSS,
    SUM(ROUND(((promotion_metric_amount*promotion_price*(1-
promotion_distinct_percent/100))*agency_fee_percent/100),2)) as Revenue_NET,
    SUM(ROUND(employee_salary_project*(1+ agency_VAT_percent/100),2)) as Cost_GROSS,
    SUM(employee_salary_project) as Cost_NET,
    SUM(ROUND(((promotion_metric_amount*promotion_price*(1-
promotion_distinct_percent/100))*agency_fee_percent/100)*(1+agency_VAT_percent/100))-(employee_salary_project*(1+
agency_VAT_percent/100)),2)) as Profit_GROSS,
    SUM(ROUND((((promotion_metric_amount*promotion_price*(1-
promotion_distinct_percent/100))*agency_fee_percent/100)-employee_salary_project),2)) as Profit_NET
from SA_TRANSACTION
GROUP BY CUBE (TIME_ID, agency_name, agency_city, agency_country)
HAVING TIME_ID IS NOT NULL
and agency_name IS NOT NULL
and agency_city IS NOT NULL
and agency_country IS NOT NULL
order by TIME_ID, agency_name, agency_city, agency_country;
```

The screenshot shows a SQL worksheet interface with the following details:

- Worksheet Tab:** Query Builder
- Query Content:**

```

99  select
100    TIME_ID,
101    customer_name,
102    brand_name,
103    SUM(ROUND(((promotion_metric_amount*promotion_price*(1-promotion_distinct_percent/100))*agency_fee_percent/100)*(1+agency_VAT_percent/100),2)) as Revenue_GROSS,
104    SUM(ROUND(((promotion_metric_amount*promotion_price*(1-promotion_distinct_percent/100))*agency_fee_percent/100),2)) as Revenue_NET,
105    SUM(ROUND(employee_salary_project*(1+ agency_VAT_percent/100),2)) as Cost_GROSS,
106    SUM(employee_salary_project) as Cost_NET,
107    SUM(ROUND(((promotion_metric_amount*promotion_price*(1-promotion_distinct_percent/100))*agency_fee_percent/100)*(1+agency_VAT_percent/100))-(employee_salary_project*(1+ agency_VAT_percent/100)),2)) as Profit_GROSS,
108    SUM(ROUND((((promotion_metric_amount*promotion_price*(1-promotion_distinct_percent/100))*agency_fee_percent/100)-(employee_salary_project),2)) as Profit_NET
109  from SA_TRANSACTION
110 GROUP BY CUBE (TIME_ID, customer_name, brand_name)
111 HAVING TIME_ID IS NOT NULL
112 and customer_name IS NOT NULL
113 and brand_name IS NOT NULL
114 order by TIME_ID, customer_name, brand_name;
115

```
- Query Result Tab:**

Fetched 50 rows in 0.433 seconds

TIME_ID	CUSTOMER_NAME	BRAND_NAME	REVENUE_GROSS	REVENUE_NET	COST_GROSS	COST_NET	PROFIT_GROSS	PROFIT_NET
1 01-JAN-22	Samsung Electronics	SAMSUNG	1686094.75	1435253.38	408664.14	348699	1277430.69	1086554.28
2 01-JAN-22	Visa International Service Association	VISA	539641.17	459713.57	140385.68	119986	399255.57	339727.48
3 02-JAN-22	Samsung Electronics	SAMSUNG	1716533.34	1463844.77	403044.89	344338	1313488.5	1119506.69
4 02-JAN-22	Visa International Service Association	VISA	570749.11	486407.85	131452.7	112113	439296.4	374294.83
5 03-JAN-22	Samsung Electronics	SAMSUNG	1732888.25	1475219.03	405472.82	346223	1327415.36	1128995.92
6 03-JAN-22	Visa International Service Association	VISA	576224.12	489390.39	136959.5	116884	439264.66	372506.36
7 04-JAN-22	Samsung Electronics	SAMSUNG	1638541.62	1394620.34	415096.28	354144	1223445.2	1040476.24
8 04-JAN-22	Visa International Service Association	VISA	545089.8	463018.57	129179.33	110054	415910.47	352964.5
9 05-JAN-22	Samsung Electronics	SAMSUNG	1678754.94	1429371.52	407229.17	347465	1271525.75	1081906.42
10 05-JAN-22	Visa International Service Association	VISA	523825.07	446196.3	134308.99	114588	389516.13	331608.22
11 06-JAN-22	Samsung Electronics	SAMSUNG	1743260.13	1485813.44	403782.27	345035	1339477.94	1140778.3
12 06-JAN-22	Visa International Service Association	VISA	599290.79	510968.76	135198.75	115525	464092.01	395443.75

Code:

```

select
    TIME_ID,
    customer_name,
    brand_name,
    SUM(ROUND(((promotion_metric_amount*promotion_price*(1-
promotion_distinct_percent/100))*agency_fee_percent/100)*(1+agency_VAT_percent/100),2)) as Revenue_GROSS,
    SUM(ROUND(((promotion_metric_amount*promotion_price*(1-
promotion_distinct_percent/100))*agency_fee_percent/100),2)) as Revenue_NET,
    SUM(ROUND(employee_salary_project*(1+ agency_VAT_percent/100),2)) as Cost_GROSS,
    SUM(employee_salary_project) as Cost_NET,
    SUM(ROUND(((promotion_metric_amount*promotion_price*(1-
promotion_distinct_percent/100))*agency_fee_percent/100)*(1+agency_VAT_percent/100))-(employee_salary_project*(1+ agency_VAT_percent/100)),2)) as Profit_GROSS,
    SUM(ROUND((((promotion_metric_amount*promotion_price*(1-
promotion_distinct_percent/100))*agency_fee_percent/100)-employee_salary_project),2)) as Profit_NET
from SA_TRANSACTION
GROUP BY CUBE (TIME_ID, customer_name, brand_name)
HAVING TIME_ID IS NOT NULL
and customer_name IS NOT NULL
and brand_name IS NOT NULL
order by TIME_ID, customer_name, brand_name;

```

SQL Worksheet History

Worksheet Query Builder

```

116 select
117     TIME_ID,
118     promotion_media_type,
119     SUM (ROUND(((promotion_metric_amount*promotion_price*(1-promotion_distinct_percent/100))*agency_fee_percent/100)*(1+agency_VAT_percent/100),2)) as Revenue_GROSS,
120     SUM (ROUND(((promotion_metric_amount*promotion_price*(1-promotion_distinct_percent/100))*agency_fee_percent/100),2)) as Revenue_NET,
121     SUM (ROUND((employee_salary_project*(1+ agency_VAT_percent/100),2)) as Cost_GROSS,
122     SUM (employee_salary_project) as Cost_NET,
123     SUM (ROUND((((promotion_metric_amount*promotion_price*(1-promotion_distinct_percent/100))*agency_fee_percent/100)*(1+agency_VAT_percent/100),2))-employee_salary_project) as Profit_GROSS,
124     SUM (ROUND((((promotion_metric_amount*promotion_price*(1-promotion_distinct_percent/100))*agency_fee_percent/100)-(employee_salary_project*(1+ agency_VAT_percent/100)),2)) as Profit_NET
125 from SA_TRANSACTION
126 GROUP BY CUBE (TIME_ID, promotion_media_type)
127 HAVING TIME_ID IS NOT NULL
128 and promotion_media_type IS NOT NULL
129 order by TIME_ID, promotion_media_type;
130

```

Query Result | Fetched 50 rows in 0.452 seconds

TIME_ID	PROMOTION_MEDIA_TYPE	REVENUE_GROSS	REVENUE_NET	COST_GROSS	COST_NET	PROFIT_GROSS	PROFIT_NET
1 01-JAN-22 OOH		308571.96	262141.29	77166.6	65905	231405.38	196236.27
2 01-JAN-22 TV		294500.68	251608.16	82399.67	70380	212101.04	181228.14
3 01-JAN-22 design		299131.19	255486.31	76903.68	65600	222227.55	189886.31
4 01-JAN-22 digital		353948.04	300277.6	77296	66235	276652.12	234042.55
5 01-JAN-22 press		327820.62	279437.24	77531.73	66064	250288.9	213373.2
6 01-JAN-22 production		308594.26	262477.32	76625.72	65378	231968.54	197099.28
7 01-JAN-22 radio		333169.17	283539.03	81126.42	69123	252042.73	214416.01
8 02-JAN-22 OOH		308348.81	263538.74	78307.5	66877	230041.33	196661.72
9 02-JAN-22 TV		352165.26	299925.78	76510.79	65278	275654.47	234647.76
10 02-JAN-22 design		315528.73	269537.98	73830.22	63103	241698.51	206434.97
11 02-JAN-22 digital		328331.48	280264.48	79844.64	68045	248486.82	212219.47
12 02-JAN-22 press		329036.48	280114.74	73449.29	62817	255587.21	217297.74
13 02-JAN-22 production		336372.77	286264.34	76457.35	65389	259915.46	220875.33

Code:

```

select
    TIME_ID,
    promotion_media_type,
    SUM (ROUND(((promotion_metric_amount*promotion_price*(1-
promotion_distinct_percent/100))*agency_fee_percent/100)*(1+agency_VAT_percent/100),2)) as Revenue_GROSS,
    SUM (ROUND(((promotion_metric_amount*promotion_price*(1-
promotion_distinct_percent/100))*agency_fee_percent/100),2)) as Revenue_NET,
    SUM (ROUND(employee_salary_project*(1+ agency_VAT_percent/100),2)) as Cost_GROSS,
    SUM (employee_salary_project) as Cost_NET,
    SUM (ROUND((((promotion_metric_amount*promotion_price*(1-
promotion_distinct_percent/100))*agency_fee_percent/100)*(1+agency_VAT_percent/100))-(employee_salary_project*(1+
agency_VAT_percent/100)),2)) as Profit_GROSS,
    SUM (ROUND((((promotion_metric_amount*promotion_price*(1-
promotion_distinct_percent/100))*agency_fee_percent/100)-employee_salary_project),2)) as Profit_NET
from SA_TRANSACTION
GROUP BY CUBE (TIME_ID, promotion_media_type)
HAVING TIME_ID IS NOT NULL
and promotion_media_type IS NOT NULL
order by TIME_ID, promotion_media_type;

```

- USE: Grouping() function

```

133 select
134     TRUNC (TIME_ID, 'DD') as date_day,
135     agency_name,
136     agency_country,
137     agency_city,
138     SUM (ROUND(((promotion_metric_amount*promotion_price*(1-promotion_distinct_percent/100))*agency_fee_percent/100)*(1+agency_VAT_percent/100),2)) as Revenue_GROSS,
139     SUM (ROUND(((promotion_metric_amount*promotion_price*(1-promotion_distinct_percent/100))*agency_fee_percent/100),2)) as Revenue_NET,
140     SUM (ROUND(employee_salary_project*(1+agency_VAT_percent/100),2)) as Cost_GROSS,
141     SUM (employee_salary_project) as Cost_NET,
142     SUM (((promotion_metric_amount*promotion_price*(1-promotion_distinct_percent/100))*agency_fee_percent/100)*(1+agency_VAT_percent/100))-(employee_salary_project*(1+agency_VAT_percent/100)),2)) as Profit_GROSS,
143     SUM (((((promotion_metric_amount*promotion_price*(1-promotion_distinct_percent/100))*agency_fee_percent/100)-(employee_salary_project*(1+agency_VAT_percent/100)),2)) as Profit_NET,
144     GROUPING(agency_name) AS f1g,
145     GROUPING(agency_country) AS f2g,
146     GROUPING(agency_city) AS f3g,
147 from SA_TRANSACTION
148 GROUP BY TRUNC (TIME_ID, 'DD'), CUBE (agency_name, agency_country, agency_city)
149 HAVING TRUNC (TIME_ID, 'DD') IS NOT NULL
150 and agency_name IS NOT NULL
151 order by TRUNC (TIME_ID, 'DD'), agency_name, agency_country, agency_city;

```

DATE_DAY	AGENCY_NAME	AGENCY_COUNTRY	AGENCY_CITY	REVENUE_GROSS	REVENUE_NET	COST_GROSS	COST_NET	PROFIT_GROSS	PROFIT_NET	F1G	F2G	F3G
1 01-JAN-22	Starcom	Australia	Sydney	37006.21	29416.76	39391.77	31313	-2385.5	-1896.26	0	0	0
2 01-JAN-22	Starcom	Australia	(null)	37006.21	29416.76	39391.77	31313	-2385.5	-1896.26	0	0	1
3 01-JAN-22	Starcom	China	Hong Kong	163436.2	144633.86	33250.25	29425	130185.95	115208.85	0	0	0
4 01-JAN-22	Starcom	China	Shanghai	160110.81	141690.98	36009.71	31867	124101.1	109823.98	0	0	0
5 01-JAN-22	Starcom	China	(null)	323547.01	286324.84	69259.96	61292	254287.05	225032.83	0	0	1
6 01-JAN-22	Starcom	Cyprus	Nicosia	227397.77	191090.55	37150.61	31219	190247.16	159871.55	0	0	0
7 01-JAN-22	Starcom	Cyprus	(null)	227397.77	191090.55	37150.61	31219	190247.16	159871.55	0	0	1
8 01-JAN-22	Starcom	Egypt	Cairo	138057.57	121103.16	35878.08	31472	102179.49	89631.14	0	0	0
9 01-JAN-22	Starcom	Egypt	(null)	138057.57	121103.16	35878.08	31472	102179.49	89631.14	0	0	1
10 01-JAN-22	Starcom	France	Paris	70787.62	58989.7	35724	29770	35063.62	29219.67	0	0	0

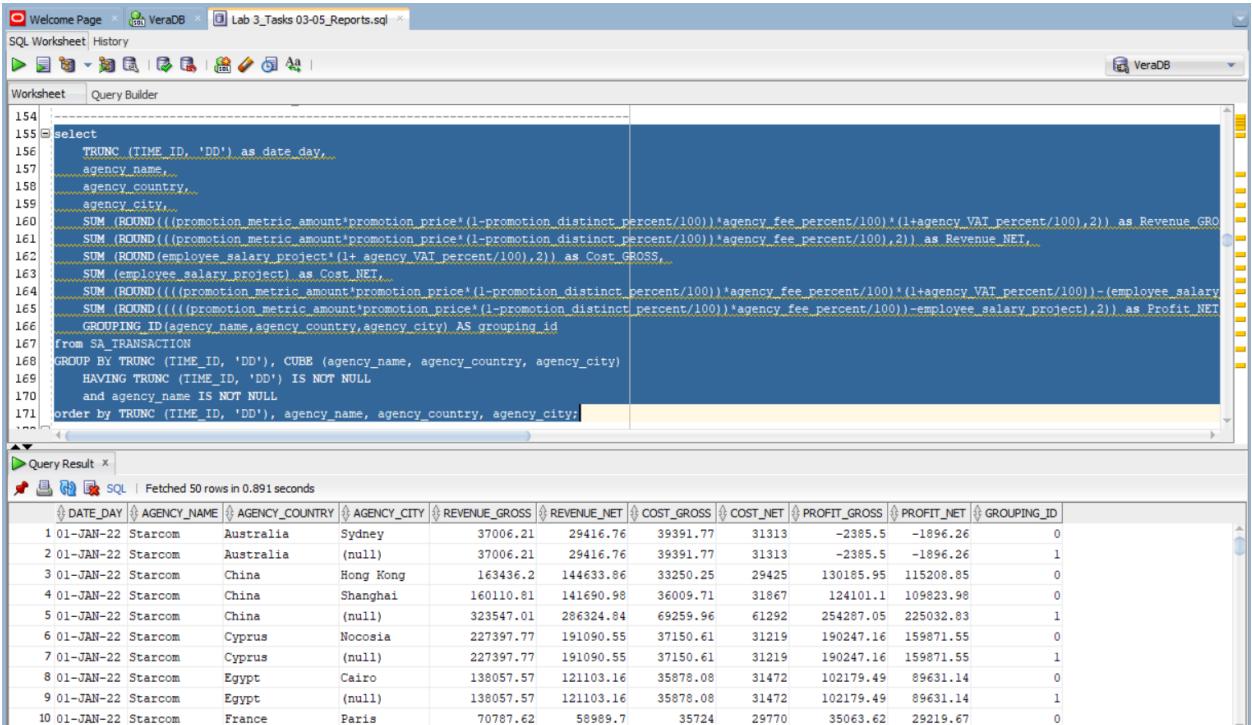
Code:

```

select
    TRUNC (TIME_ID, 'DD') as date_day,
    agency_name,
    agency_country,
    agency_city,
    SUM (ROUND(((promotion_metric_amount*promotion_price*(1-
promotion_distinct_percent/100))*agency_fee_percent/100)*(1+agency_VAT_percent/100),2)) as Revenue_GROSS,
    SUM (ROUND(((promotion_metric_amount*promotion_price*(1-
promotion_distinct_percent/100))*agency_fee_percent/100),2)) as Revenue_NET,
    SUM (ROUND(employee_salary_project*(1+agency_VAT_percent/100),2)) as Cost_GROSS,
    SUM (employee_salary_project) as Cost_NET,
    SUM (((promotion_metric_amount*promotion_price*(1-
promotion_distinct_percent/100))*agency_fee_percent/100)*(1+agency_VAT_percent/100))-(employee_salary_project*(1+
agency_VAT_percent/100)),2)) as Profit_GROSS,
    SUM (ROUND((((promotion_metric_amount*promotion_price*(1-
promotion_distinct_percent/100))*agency_fee_percent/100)-employee_salary_project),2)) as Profit_NET,
    GROUPING(agency_name) AS f1g,
    GROUPING(agency_country) AS f2g,
    GROUPING(agency_city) AS f3g
from SA_TRANSACTION
GROUP BY TRUNC (TIME_ID, 'DD'), CUBE (agency_name, agency_country, agency_city)
HAVING TRUNC (TIME_ID, 'DD') IS NOT NULL
and agency_name IS NOT NULL
order by TRUNC (TIME_ID, 'DD'), agency_name, agency_country, agency_city;

```

- USE: Grouping_ID function



```

154
155 select
156     TRUNC (TIME_ID, 'DD') as date_day,
157     agency_name,
158     agency_country,
159     agency_city,
160     SUM (ROUND(((promotion_metric_amount*promotion_price*(1-promotion_distinct_percent/100))*agency_fee_percent/100)*(1+agency_VAT_percent/100),2)) as Revenue_GROSS,
161     SUM (ROUND(((promotion_metric_amount*promotion_price*(1-promotion_distinct_percent/100))*agency_fee_percent/100),2)) as Revenue_NET,
162     SUM (ROUND(employee_salary_project*(1+ agency_VAT_percent/100),2)) as Cost_GROSS,
163     SUM (employee_salary_project) as Cost_NET,
164     SUM (ROUND((((promotion_metric_amount*promotion_price*(1-promotion_distinct_percent/100))*agency_fee_percent/100)*(1+agency_VAT_percent/100))-(employee_salary_project*(1+ agency_VAT_percent/100)),2)) as Profit_GROSS,
165     SUM (ROUND((((promotion_metric_amount*promotion_price*(1-promotion_distinct_percent/100))*agency_fee_percent/100)*(1+agency_VAT_percent/100))-employee_salary_project,2)) as Profit_NET,
166     GROUPING_ID(agency_name,agency_country,agency_city) AS grouping_id
167 from SA_TRANSACTION
168 GROUP BY TRUNC (TIME_ID, 'DD'), CUBE (agency_name, agency_country, agency_city)
169 HAVING TRUNC (TIME_ID, 'DD') IS NOT NULL
170 and agency_name IS NOT NULL
171 order by TRUNC (TIME_ID, 'DD'), agency_name, agency_country, agency_city;
    
```

Query Result | Fetched 50 rows in 0.891 seconds

DATE_DAY	AGENCY_NAME	AGENCY_COUNTRY	AGENCY_CITY	REVENUE_GROSS	REVENUE_NET	COST_GROSS	COST_NET	PROFIT_GROSS	PROFIT_NET	GROUPING_ID
1 01-JAN-22	Starcom	Australia	Sydney	37006.21	29416.76	39391.77	31313	-2385.5	-1896.26	0
2 01-JAN-22	Starcom	Australia	(null)	37006.21	29416.76	39391.77	31313	-2385.5	-1896.26	1
3 01-JAN-22	Starcom	China	Hong Kong	163436.2	144633.86	33250.25	29425	130185.95	115208.85	0
4 01-JAN-22	Starcom	China	Shanghai	160110.81	141690.98	36009.71	31867	124101.1	109823.98	0
5 01-JAN-22	Starcom	China	(null)	323547.01	286324.84	69259.96	61292	254287.05	225032.83	1
6 01-JAN-22	Starcom	Cyprus	Nicosia	227397.77	191090.55	37150.61	31219	190247.16	159871.55	0
7 01-JAN-22	Starcom	Cyprus	(null)	227397.77	191090.55	37150.61	31219	190247.16	159871.55	1
8 01-JAN-22	Starcom	Egypt	Cairo	138057.57	121103.16	35878.08	31472	102179.49	89631.14	0
9 01-JAN-22	Starcom	Egypt	(null)	138057.57	121103.16	35878.08	31472	102179.49	89631.14	1
10 01-JAN-22	Starcom	France	Paris	70787.62	58989.7	35724	29770	35063.62	29219.67	0

Code:

```

select
    TRUNC (TIME_ID, 'DD') as date_day,
    agency_name,
    agency_country,
    agency_city,
    SUM (ROUND(((promotion_metric_amount*promotion_price*(1-
promotion_distinct_percent/100))*agency_fee_percent/100)*(1+agency_VAT_percent/100),2)) as Revenue_GROSS,
    SUM (ROUND(((promotion_metric_amount*promotion_price*(1-
promotion_distinct_percent/100))*agency_fee_percent/100),2)) as Revenue_NET,
    SUM (ROUND(employee_salary_project*(1+ agency_VAT_percent/100),2)) as Cost_GROSS,
    SUM (employee_salary_project) as Cost_NET,
    SUM (ROUND((((promotion_metric_amount*promotion_price*(1-
promotion_distinct_percent/100))*agency_fee_percent/100)*(1+agency_VAT_percent/100))-(employee_salary_project*(1+
agency_VAT_percent/100)),2)) as Profit_GROSS,
    SUM (ROUND((((promotion_metric_amount*promotion_price*(1-
promotion_distinct_percent/100))*agency_fee_percent/100)-employee_salary_project,2)) as Profit_NET,
    GROUPING_ID(agency_name,agency_country,agency_city) AS grouping_id
from SA_TRANSACTION
GROUP BY TRUNC (TIME_ID, 'DD'), CUBE (agency_name, agency_country, agency_city)
HAVING TRUNC (TIME_ID, 'DD') IS NOT NULL
and agency_name IS NOT NULL
order by TRUNC (TIME_ID, 'DD'), agency_name, agency_country, agency_city;
    
```

SQL Worksheet | History

Worksheet | Query Builder

```

114 select
115     TIME_ID,
116     promotion_media_type,
117     SUM(ROUND((promotion_metric_amount*promotion_price*(1-promotion_distinct_percent/100))*agency_fee_percent/100)*(1+agency_VAT_percent/100),2)) as Revenue_GROSS,
118     SUM(ROUND((promotion_metric_amount*promotion_price*(1-promotion_distinct_percent/100))*agency_fee_percent/100),2)) as Revenue_NET,
119     SUM(ROUND(employee_salary_project*(1+agency_VAT_percent/100),2)) as Cost_GROSS,
120     SUM(employee_salary_project) as Cost_NET,
121     SUM(ROUND(((promotion_metric_amount*promotion_price*(1-promotion_distinct_percent/100))*agency_fee_percent/100)*(1+agency_VAT_percent/100))-(employee_salary
122     SUM(ROUND(((promotion_metric_amount*promotion_price*(1-promotion_distinct_percent/100))*agency_fee_percent/100)-(employee_salary_project),2))) as Profit_NET
123 from SA_TRANSACTION
124 GROUP BY CUBE (TIME_ID, promotion_media_type)
125 HAVING TIME_ID IS NOT NULL
126 and promotion_media_type IS NOT NULL
127 order by TIME_ID, promotion_media_type;

```

Script Output | Query Result | Fetched 50 rows in 0.48 seconds

TIME_ID	PROMOTION_MEDIA_TYPE	REVENUE_GROSS	REVENUE_NET	COST_GROSS	COST_NET	PROFIT_GROSS	PROFIT_NET
1 01-JAN-22 OOH		308571.96	262141.29	77166.6	65905	231405.38	196236.27
2 01-JAN-22 TV		294500.68	251608.16	82399.67	70380	212101.04	181228.14
3 01-JAN-22 design		299131.19	255486.31	76903.68	65600	22227.55	189886.31
4 01-JAN-22 digital		353948.04	300277.6	77296	66235	276652.12	234042.55
5 01-JAN-22 press		327820.62	279437.24	77531.73	66064	250288.9	213373.2
6 01-JAN-22 production		308594.26	262477.32	76625.72	65378	231968.54	197099.28
7 01-JAN-22 radio		333169.17	283539.03	81126.42	69123	252042.73	214416.01
8 02-JAN-22 OOH		308348.81	263538.74	78307.5	66877	230041.33	196661.72
9 02-JAN-22 TV		352165.26	299925.78	76510.79	65278	275654.47	234647.76
10 02-JAN-22 design		315528.73	269537.98	73830.22	63103	241698.51	206434.97
11 02-JAN-22 digital		328331.48	280264.48	79844.64	68045	248486.82	212219.47
12 02-JAN-22 press		329036.48	280114.74	73449.29	62817	255587.21	217297.74
13 02-JAN-22 production		336372.77	286264.34	76457.35	65389	259915.46	220875.33
14 02-JAN-22 radio		317498.92	270606.56	76097.8	64942	241401.1	205664.53

3.2. Task 04: CREATE Test AdHoc SQL - Monthly Reports (ROLLUP & GROUPING SETS)

Let's will calculate Monthly Reports (According report layouts on task 01).

- USE: CUBE Extension

SQL Worksheet | History

Worksheet | Query Builder

```

174
175 select
176     TIME_ID,
177     agency_city,
178     employee_first_name,
179     employee_last_name,
180     SUM(ROUND(employee_salary_project*(1+agency_VAT_percent/100),2)) as employee_salary_project_GROSS,
181     SUM(employee_salary_project) as employee_salary_project_NET
182 from SA_TRANSACTION
183 GROUP BY CUBE (TIME_ID, agency_city, employee_first_name, employee_last_name)
184 HAVING TIME_ID IS NOT NULL
185 and agency_city IS NOT NULL
186 and employee_first_name IS NOT NULL
187 and employee_last_name IS NOT NULL
188 order by TIME_ID, agency_city, employee_first_name, employee_last_name;

```

Query Result | Fetched 50 rows in 0.44 seconds

TIME_ID	AGENCY_CITY	EMPLOYEE_FIRST_NAME	EMPLOYEE_LAST_NAME	EMPLOYEE_SALARY_PROJECT_GROSS	EMPLOYEE_SALARY_PROJECT_NET
1 01-JAN-22 Barcelona	Alex	Abramson		886.93	733
2 01-JAN-22 Barcelona	Alex	Barnes		413.82	342
3 01-JAN-22 Barcelona	Alex	Campbell		64.13	53
4 01-JAN-22 Barcelona	Alex	Delon		387.2	320
5 01-JAN-22 Barcelona	Alex	Enderson		536.03	443
6 01-JAN-22 Barcelona	Alex	Foster		237.16	196
7 01-JAN-22 Barcelona	Alex	Gauss		1133.77	937
8 01-JAN-22 Barcelona	Alex	Joukowski		905.08	748
9 01-JAN-22 Barcelona	Alex	Kendall		779.24	644
10 01-JAN-22 Barcelona	Billie	Barnes		438.02	362
11 01-JAN-22 Barcelona	Billie	Delon		569.91	471
12 01-JAN-22 Barcelona	Billie	Foster		536.03	443
13 01-JAN-22 Barcelona	Billie	Gauss		707.85	585

Code:

```
select
    TIME_ID,
    agency_city,
    employee_first_name,
    employee_last_name,
    SUM (ROUND(employee_salary_project*(1+ agency_VAT_percent/100),2)) as employee_salary_project_GROSS,
    SUM (employee_salary_project) as employee_salary_project_NET
from SA_TRANSACTION
GROUP BY CUBE (TIME_ID, agency_city, employee_first_name, employee_last_name)
HAVING TIME_ID IS NOT NULL
and agency_city IS NOT NULL
and employee_first_name IS NOT NULL
and employee_last_name IS NOT NULL
order by TIME_ID, agency_city, employee_first_name, employee_last_name;
```

The screenshot shows a SQL database interface with a 'Worksheet' tab open. The code in the worksheet is as follows:

```
191 select
192     TIME_ID,
193     brand_name,
194     agency_city,
195     promotion_media_type,
196     COUNT (promotion_ID) as number_of_promotions
197 from SA_TRANSACTION
198 GROUP BY CUBE (TIME_ID, brand_name, agency_city, promotion_media_type)
199 HAVING TIME_ID IS NOT NULL
200 and brand_name IS NOT NULL
201 and agency_city IS NOT NULL
202 and promotion_media_type IS NOT NULL
203 order by TIME_ID, brand_name, agency_city, promotion_media_type;
```

The 'Query Result' tab shows the output of the query:

TIME_ID	BRAND_NAME	AGENCY_CITY	PROMOTION_MEDIA_TYPE	NUMBER_OF_PROMOTIONS
1 01-JAN-22	SAMSUNG	Barcelona	OOH	12
2 01-JAN-22	SAMSUNG	Barcelona	TV	12
3 01-JAN-22	SAMSUNG	Barcelona	design	12
4 01-JAN-22	SAMSUNG	Barcelona	digital	12
5 01-JAN-22	SAMSUNG	Barcelona	press	12
6 01-JAN-22	SAMSUNG	Barcelona	production	12
7 01-JAN-22	SAMSUNG	Barcelona	radio	12
8 01-JAN-22	SAMSUNG	Berlin	OOH	12
9 01-JAN-22	SAMSUNG	Berlin	TV	12
10 01-JAN-22	SAMSUNG	Berlin	design	12
11 01-JAN-22	SAMSUNG	Berlin	digital	12
12 01-JAN-22	SAMSUNG	Berlin	press	12
13 01-JAN-22	SAMSUNG	Berlin	production	12
14 01-JAN-22	SAMSUNG	Berlin	radio	12
15 01-JAN-22	SAMSUNG	Cairo	OOH	12

Code:

```
select
    TIME_ID,
    brand_name,
    agency_city,
    promotion_media_type,
    COUNT (promotion_ID) as number_of_promotions
from SA_TRANSACTION
GROUP BY CUBE (TIME_ID, brand_name, agency_city, promotion_media_type)
HAVING TIME_ID IS NOT NULL
```

```

and brand_name IS NOT NULL
and agency_city IS NOT NULL
and promotion_media_type IS NOT NULL
order by TIME_ID, brand_name, agency_city, promotion_media_type;

```

The screenshot shows a SQL worksheet interface with the following details:

- SQL Worksheet:** The main area displays the following SQL code:


```

205 select
206     TIME_ID,
207     agency_name,
208     agency_city,
209     agency_country,
210     COUNT(distinct customer_name) as number_of_customers
211 from SA TRANSACTION
212 GROUP BY CUBE (TIME_ID, agency_name, agency_city, agency_country)
213 HAVING TIME_ID IS NOT NULL
214     and agency_name IS NOT NULL
215     and agency_city IS NOT NULL
216     and agency_country IS NOT NULL
217 order by TIME_ID, agency_name, agency_city, agency_country;
      
```
- Query Result:** Below the code, the results are displayed in a table:

TIME_ID	AGENCY_NAME	AGENCY_CITY	AGENCY_COUNTRY	NUMBER_OF_CUSTOMERS
1 01-JAN-22	Starcom	Barcelona	Spain	2
2 01-JAN-22	Starcom	Berlin	Germany	2
3 01-JAN-22	Starcom	Cairo	Egypt	2
4 01-JAN-22	Starcom	Dubai	UAE	2
5 01-JAN-22	Starcom	Hong Kong	China	2
6 01-JAN-22	Starcom	London	United Kingdom	2
7 01-JAN-22	Starcom	Milan	Italy	2
8 01-JAN-22	Starcom	Moscow	Russia	2
9 01-JAN-22	Starcom	New York	United States	2
10 01-JAN-22	Starcom	Nicosia	Cyprus	2
11 01-JAN-22	Starcom	Paris	France	2
12 01-JAN-22	Starcom	Shanghai	China	2
13 01-JAN-22	Starcom	Sydney	Australia	2
14 01-JAN-22	Starcom	Warsaw	Poland	2
15 01-JAN-22	Starcom	Zurich	Switzerland	2

Code:

```

select
    TIME_ID,
    agency_name,
    agency_city,
    agency_country,
    COUNT(distinct customer_name) as number_of_customers
from SA TRANSACTION
GROUP BY CUBE (TIME_ID, agency_name, agency_city, agency_country)
HAVING TIME_ID IS NOT NULL
    and agency_name IS NOT NULL
    and agency_city IS NOT NULL
    and agency_country IS NOT NULL
order by TIME_ID, agency_name, agency_city, agency_country;

```

Welcome Page VeraDB Lab 3_Tasks 03-05_Reports.sql

SQL Worksheet History

Worksheet Query Builder

```

219 select
220     TIME_ID,
221     agency_name,
222     agency_city,
223     agency_country,
224     COUNT(distinct (employee_first_name||' '||employee_last_name)) as number_of_empl
225 from SA_TRANSACTION
226 GROUP BY CUBE (TIME_ID, agency_name, agency_city, agency_country)
227 HAVING TIME_ID IS NOT NULL
228 and agency_name IS NOT NULL
229 and agency_city IS NOT NULL
230 and agency_country IS NOT NULL
231 order by TIME_ID, agency_name, agency_city, agency_country;

```

Query Result | SQL | Fetched 50 rows in 0.267 seconds

TIME_ID	AGENCY_NAME	AGENCY_CITY	AGENCY_COUNTRY	NUMBER_OF_EMPLOYEES
1	01-JAN-22 Starcom	Barcelona	Spain	69
2	01-JAN-22 Starcom	Berlin	Germany	67
3	01-JAN-22 Starcom	Cairo	Egypt	73
4	01-JAN-22 Starcom	Dubai	UAE	62
5	01-JAN-22 Starcom	Hong Kong	China	67
6	01-JAN-22 Starcom	London	United Kingdom	66
7	01-JAN-22 Starcom	Milan	Italy	68
8	01-JAN-22 Starcom	Moscow	Russia	65
9	01-JAN-22 Starcom	New York	United States	67
10	01-JAN-22 Starcom	Nicosia	Cyprus	68
11	01-JAN-22 Starcom	Paris	France	73
12	01-JAN-22 Starcom	Shanghai	China	67
13	01-JAN-22 Starcom	Sydney	Australia	71
14	01-JAN-22 Starcom	Warsaw	Poland	69
15	01-JAN-22 Starcom	Zurich	Switzerland	71

Code:

```

select
    TIME_ID,
    agency_name,
    agency_city,
    agency_country,
    COUNT(distinct (employee_first_name||' '||employee_last_name)) as number_of_employees
from SA_TRANSACTION
GROUP BY CUBE (TIME_ID, agency_name, agency_city, agency_country)
HAVING TIME_ID IS NOT NULL
and agency_name IS NOT NULL
and agency_city IS NOT NULL
and agency_country IS NOT NULL
order by TIME_ID, agency_name, agency_city, agency_country;

```

• USE: ROLLUP Extension

The screenshot shows a SQL query in a query builder interface. The code uses the ROLLUP extension to calculate various financial metrics (Revenue_GROSS, Revenue_NET, Cost_GROSS, Cost_NET, Profit_GROSS, Profit_NET) grouped by agency_name, agency_country, and agency_city. The results are ordered by date_month (MM).

```

235  select
236      TRUNC (TIME_ID, 'MM') as date_month,
237      agency_name,
238      agency_country,
239      agency_city,
240      SUM (ROUND(((promotion_metric_amount*promotion_price*(1-promotion_distinct_percent/100))*agency_fee_percent/100)*(1+agency_VAT_percent/100),2)) as Revenue_GROSS,
241      SUM (ROUND(((promotion_metric_amount*promotion_price*(1-promotion_distinct_percent/100))*agency_fee_percent/100),2)) as Revenue_NET,
242      SUM (ROUND(employee_salary_project*(1+ agency_VAT_percent/100),2)) as Cost_GROSS,
243      SUM (employee_salary_project) as Cost_NET,
244      SUM (ROUND(((promotion_metric_amount*promotion_price*(1-promotion_distinct_percent/100))*agency_fee_percent/100)*(1+agency_VAT_percent/100))-(employee_salary_project*(1+ agency_VAT_percent/100)),2)) as Profit_GROSS,
245      SUM (ROUND(((promotion_metric_amount*promotion_price*(1-promotion_distinct_percent/100))*agency_fee_percent/100)-(employee_salary_project),2)) as Profit_NET
246  from SA_TRANSACTION
247  GROUP BY TRUNC (TIME_ID, 'MM'), ROLLUP (agency_name, agency_country, agency_city)
248  HAVING TRUNC (TIME_ID, 'MM') IS NOT NULL
249  and agency_name IS NOT NULL
250  order by TRUNC (TIME_ID, 'MM'), agency_name, agency_country, agency_city;

```

DATE_MONTH	AGENCY_NAME	AGENCY_COUNTRY	AGENCY_CITY	REVENUE_GROSS	REVENUE_NET	COST_GROSS	COST_NET	PROFIT_GROSS	PROFIT_NET
1 01-JAN-22	Starcom	Australia	Sydney	1087492.15	864461.89	1216541.38	967044	-129049.34	-102582.84
2 01-JAN-22	Starcom	Australia	(null)	1087492.15	864461.89	1216541.38	967044	-129049.34	-102582.84
3 01-JAN-22	Starcom	China	Hong Kong	4818889.61	4264505.61	1066093.98	943446	3752795.63	3321059.06
4 01-JAN-22	Starcom	China	Shanghai	4823823.53	4268872	1070868.23	947671	3752955.28	3321200.5
5 01-JAN-22	Starcom	China	(null)	9642713.14	8533377.61	2136962.21	1891117	7505750.91	6642259.56
6 01-JAN-22	Starcom	Cyprus	Nicosia	7149559.25	6008033.44	1130876.04	950316	6018683.21	5057717.36
7 01-JAN-22	Starcom	Cyprus	(null)	7149559.25	6008033.44	1130876.04	950316	6018683.21	5057717.36
8 01-JAN-22	Starcom	Egypt	Cairo	4797528.32	4208360	1087516.68	953962	3710011.63	3254397.4
9 01-JAN-22	Starcom	Egypt	(null)	4797528.32	4208360	1087516.68	953962	3710011.63	3254397.4
10 01-JAN-22	Starcom	France	Paris	2054998.63	1712499.22	1146770.4	955642	908228.23	756856.86
11 01-JAN-22	Starcom	France	(null)	2054998.63	1712499.22	1146770.4	955642	908228.23	756856.86
12 01-JAN-22	Starcom	Germany	Berlin	2949625.12	2478677.1	1146626.88	963552	1802998.23	1515124.78

Code:

```

select
    TRUNC (TIME_ID, 'MM') as date_month,
    agency_name,
    agency_country,
    agency_city,
    SUM (ROUND(((promotion_metric_amount*promotion_price*(1-
promotion_distinct_percent/100))*agency_fee_percent/100)*(1+agency_VAT_percent/100),2)) as Revenue_GROSS,
    SUM (ROUND(((promotion_metric_amount*promotion_price*(1-
promotion_distinct_percent/100))*agency_fee_percent/100),2)) as Revenue_NET,
    SUM (ROUND(employee_salary_project*(1+ agency_VAT_percent/100),2)) as Cost_GROSS,
    SUM (employee_salary_project) as Cost_NET,
    SUM (ROUND(((promotion_metric_amount*promotion_price*(1-
promotion_distinct_percent/100))*agency_fee_percent/100)*(1+agency_VAT_percent/100))-(employee_salary_project*(1+ agency_VAT_percent/100)),2)) as Profit_GROSS,
    SUM (ROUND((((promotion_metric_amount*promotion_price*(1-
promotion_distinct_percent/100))*agency_fee_percent/100)-employee_salary_project),2)) as Profit_NET
from SA_TRANSACTION
GROUP BY TRUNC (TIME_ID, 'MM'), ROLLUP (agency_name, agency_country, agency_city)
HAVING TRUNC (TIME_ID, 'MM') IS NOT NULL
and agency_name IS NOT NULL
order by TRUNC (TIME_ID, 'MM'), agency_name, agency_country, agency_city;

```

SQL Worksheet | History | Lab 3_Tasks 03-05_Reports.sql | VeraDB

```

251
252 select
253     TRUNC (TIME_ID, 'MM') as date_month,
254     agency_name,
255     customer_name,
256     brand_name,
257     SUM (ROUND(((promotion_metric_amount*promotion_price*(1-promotion_distinct_percent/100))*agency_fee_percent/100)*(1+agency_VAT_percent/100),2)) as Revenue_GROSS,
258     SUM (ROUND(((promotion_metric_amount*promotion_price*(1-promotion_distinct_percent/100))*agency_fee_percent/100),2)) as Revenue_NET,
259     SUM (ROUND(employee_salary_project*(1+agency_VAT_percent/100),2)) as Cost_GROSS,
260     SUM (employee_salary_project) as Cost_NET,
261     SUM (ROUND((((promotion_metric_amount*promotion_price*(1-promotion_distinct_percent/100))*agency_fee_percent/100)*(1+agency_VAT_percent/100))-(employee_salary_project),2)) as Profit_GROSS,
262     SUM (ROUND((((promotion_metric_amount*promotion_price*(1-promotion_distinct_percent/100))*agency_fee_percent/100)-(employee_salary_project),2)) as Profit_NET
263 from SA_TRANSACTION
264 GROUP BY TRUNC (TIME_ID, 'MM'), ROLLUP (agency_name, customer_name, brand_name)
265 HAVING TRUNC (TIME_ID, 'MM') IS NOT NULL
266

```

Query Result | X | All Rows Fetched: 35 in 0.859 seconds

DATE_MONTH	AGENCY_NAME	CUSTOMER_NAME	BRAND_NAME	REVENUE_GROSS	REVENUE_NET	COST_GROSS	COST_NET	PROFIT_GROSS	PROFIT_NET
1 01-JAN-22	Starcom	Samsung Electronics	SAMSUNG	52553577.26	44735597.04	12551028.06	10710691	40002549.97	34024902.32
2 01-JAN-22	Starcom	Samsung Electronics	(null)	52553577.26	44735597.04	12551028.06	10710691	40002549.97	34024902.32
3 01-JAN-22	Starcom	Visa International Service Association VISA		17493193.41	14893055.68	4189317.67	3575764	13303876.1	11317290.47
4 01-JAN-22	Starcom	Visa International Service Association (null)		17493193.41	14893055.68	4189317.67	3575764	13303876.1	11317290.47
5 01-JAN-22	Starcom	(null)	(null)	70046770.67	59628652.72	16740345.73	14286455	53306426.07	45342192.79
6 01-FEB-22	Starcom	Samsung Electronics	SAMSUNG	47354477.71	40308001.53	11351171.22	9686893	36003307.43	30621105.23
7 01-FEB-22	Starcom	Samsung Electronics	(null)	47354477.71	40308001.53	11351171.22	9686893	36003307.43	30621105.23
8 01-FEB-22	Starcom	Visa International Service Association VISA		15750257.33	13412401.91	3788668.37	3232524	11961589.13	10179876.96
9 01-FEB-22	Starcom	Visa International Service Association (null)		15750257.33	13412401.91	3788668.37	3232524	11961589.13	10179876.96
10 01-FEB-22	Starcom	(null)	(null)	63104735.04	53720403.44	15139839.59	12919417	47964896.56	40800982.19
11 01-MAR-22	Starcom	Samsung Electronics	SAMSUNG	52381394.49	44591213.24	12595838.74	10750046	39785556.88	33841163.77
12 01-MAR-22	Starcom	Samsung Electronics	(null)	52381394.49	44591213.24	12595838.74	10750046	39785556.88	33841163.77
13 01-MAR-22	Starcom	Visa International Service Association VISA		17560662.94	14950319.3	4187048.81	3574006	13373614.58	11376312.22

Code:

```

select
    TRUNC (TIME_ID, 'MM') as date_month,
    agency_name,
    customer_name,
    brand_name,
    SUM (ROUND(((promotion_metric_amount*promotion_price*(1-
promotion_distinct_percent/100))*agency_fee_percent/100)*(1+agency_VAT_percent/100),2)) as Revenue_GROSS,
    SUM (ROUND(((promotion_metric_amount*promotion_price*(1-
promotion_distinct_percent/100))*agency_fee_percent/100),2)) as Revenue_NET,
    SUM (ROUND(employee_salary_project*(1+agency_VAT_percent/100),2)) as Cost_GROSS,
    SUM (employee_salary_project) as Cost_NET,
    SUM (ROUND((((promotion_metric_amount*promotion_price*(1-
promotion_distinct_percent/100))*agency_fee_percent/100)*(1+agency_VAT_percent/100))-(employee_salary_project*(1+
agency_VAT_percent/100)),2)) as Profit_GROSS,
    SUM (ROUND((((promotion_metric_amount*promotion_price*(1-
promotion_distinct_percent/100))*agency_fee_percent/100)-employee_salary_project),2)) as Profit_NET
from SA_TRANSACTION
GROUP BY TRUNC (TIME_ID, 'MM'), ROLLUP (agency_name, customer_name, brand_name)
HAVING TRUNC (TIME_ID, 'MM') IS NOT NULL
and agency_name IS NOT NULL
order by TRUNC (TIME_ID, 'MM'), agency_name, customer_name, brand_name;

```

SQL Worksheet | History

Worksheet Query Builder

```

268
269  select
270      TRUNC (TIME_ID, 'MM') as date_month,
271      customer_name,
272      brand_name,
273      promotion_media_type,
274      SUM (ROUND(((promotion_metric_amount*promotion_price*(1-promotion_distinct_percent/100))*agency_fee_percent/100)*(1+agency_VAT_percent/100),2)) as Revenue_GROSS,
275      SUM (ROUND(((promotion_metric_amount*promotion_price*(1-promotion_distinct_percent/100))*agency_fee_percent/100),2)) as Revenue_NET,
276      SUM (ROUND(employee_salary_project*(1+agency_VAT_percent/100),2)) as Cost_GROSS,
277      SUM (employee_salary_project) as Cost_NET,
278      SUM (ROUND((((promotion_metric_amount*promotion_price*(1-promotion_distinct_percent/100))*agency_fee_percent/100)*(1+agency_VAT_percent/100))-(employee_salary_project*(1+agency_VAT_percent/100)),2)) as Profit_GROSS,
279      SUM (ROUND((((promotion_metric_amount*promotion_price*(1-promotion_distinct_percent/100))*agency_fee_percent/100)-(employee_salary_project),2)) as Profit_NET
280  from SA_TRANSACTION
281  GROUP BY TRUNC (TIME_ID, 'MM'), ROLLUP (customer_name, brand_name,promotion_media_type)
282  HAVING TRUNC (TIME_ID, 'MM') IS NOT NULL

```

Query Result | Fetched 50 rows in 0.855 seconds

DATE_MONTH	CUSTOMER_NAME	BRAND_NAME	PROMOTION_MEDIA_TYPE	REVENUE_GROSS	REVENUE_NET	COST_GROSS	COST_NET	PROFIT_GROSS	PROFIT_NET
1 01-JAN-22	Samsung Electronics	SAMSUNG	OOH	7525615.2	6407143.1	1788792.18	1526617	5736822.98	480525.58
2 01-JAN-22	Samsung Electronics	SAMSUNG	TV	7461399.43	6353431.32	1801945.49	1537325	5659453.99	4816105.81
3 01-JAN-22	Samsung Electronics	SAMSUNG	design	7562196.92	6440957.32	1780881.78	1519656	5781315.24	4921300.81
4 01-JAN-22	Samsung Electronics	SAMSUNG	digital	7464536.97	6350401.76	1808945.6	1544987	5655591.83	4805414.25
5 01-JAN-22	Samsung Electronics	SAMSUNG	press	7345701.64	6253298.14	1790200.08	1527649	5555501.43	4725648.52
6 01-JAN-22	Samsung Electronics	SAMSUNG	production	7692866.68	6541351.1	1787128.51	1524469	5905738.56	5016881.53
7 01-JAN-22	Samsung Electronics	SAMSUNG	radio	7501260.42	6389014.3	1793134.42	1529988	5708125.94	4859025.82
8 01-JAN-22	Samsung Electronics	SAMSUNG	(null)	52553577.26	44735597.04	12551028.06	10710691	40002549.97	34024902.32
9 01-JAN-22	Samsung Electronics	(null)	(null)	52553577.26	44735597.04	12551028.06	10710691	40002549.97	34024902.32
10 01-JAN-22	Visa International Service Association VISA	OOH		2478543.57	2108978.24	597828.06	510378	1880715.54	1598600.05
11 01-JAN-22	Visa International Service Association VISA	TV		2492309.11	2121202.81	607222.65	518101	1885086.51	1603101.68
12 01-JAN-22	Visa International Service Association VISA		design	2506208.14	2134686.06	586995.55	501253	1919212.68	1633432.84
13 01-JAN-22	Visa International Service Association VISA		digital	2587279.4	2202489.47	602610.93	514325	1984668.46	1688164.34

Code:

```

select
    TRUNC (TIME_ID, 'MM') as date_month,
    customer_name,
    brand_name,
    promotion_media_type,
    SUM (ROUND(((promotion_metric_amount*promotion_price*(1-
promotion_distinct_percent/100))*agency_fee_percent/100)*(1+agency_VAT_percent/100),2)) as Revenue_GROSS,
    SUM (ROUND(((promotion_metric_amount*promotion_price*(1-
promotion_distinct_percent/100))*agency_fee_percent/100),2)) as Revenue_NET,
    SUM (ROUND(employee_salary_project*(1+agency_VAT_percent/100),2)) as Cost_GROSS,
    SUM (employee_salary_project) as Cost_NET,
    SUM (ROUND((((promotion_metric_amount*promotion_price*(1-
promotion_distinct_percent/100))*agency_fee_percent/100)*(1+agency_VAT_percent/100))-(employee_salary_project*(1+
agency_VAT_percent/100)),2)) as Profit_GROSS,
    SUM (ROUND((((promotion_metric_amount*promotion_price*(1-
promotion_distinct_percent/100))*agency_fee_percent/100)-employee_salary_project),2)) as Profit_NET
from SA_TRANSACTION
GROUP BY TRUNC (TIME_ID, 'MM'), ROLLUP (customer_name, brand_name,promotion_media_type)
HAVING TRUNC (TIME_ID, 'MM') IS NOT NULL
order by TRUNC (TIME_ID, 'MM'), customer_name, brand_name,promotion_media_type;

```

- USE: GROUPING SETS Extension & Grouping_ID function

The screenshot shows a SQL worksheet interface with a query editor and a results grid. The query uses the GROUPING SETS extension and the GROUPING_ID function to aggregate data by agency name, country, and city, while also calculating various financial metrics like Revenue_GROSS, Cost_GROSS, and Profit_NET.

```

285 --monthly reports - USE: GROUPING SETS Extension
286 -----
287 select
288     TRUNC (TIME_ID, 'MM') as date_day,
289     agency_name,
290     agency_country,
291     agency_city,
292     SUM (ROUND(((promotion_metric_amount*promotion_price*(1-promotion_distinct_percent/100))*agency_fee_percent/100)*(1+agency_VAT_percent/100),2)) as Revenue_GROSS,
293     SUM (ROUND(((promotion_metric_amount*promotion_price*(1-promotion_distinct_percent/100))*agency_fee_percent/100),2)) as Revenue_NET,
294     SUM (ROUND(employee_salary_project*(1+ agency_VAT_percent/100),2)) as Cost_GROSS,
295     SUM (employee_salary_project) as Cost_NET,
296     SUM (ROUND((((promotion_metric_amount*promotion_price*(1-promotion_distinct_percent/100))*agency_fee_percent/100)*(1+agency_VAT_percent/100))-(employee_salary_project*(1+ agency_VAT_percent/100)),2)) as Profit_GROSS,
297     SUM (ROUND((((promotion_metric_amount*promotion_price*(1-promotion_distinct_percent/100))*agency_fee_percent/100)*(1+agency_VAT_percent/100))-employee_salary_project,2)) as Profit_NET,
298     GROUPING_ID(agency_name,agency_country,agency_city) AS grouping_id
299 from SA TRANSACTION
300 GROUP BY TRUNC (TIME_ID, 'MM'), GROUPING SETS ((agency_name, agency_country), (agency_name,agency_city))
301 HAVING TRUNC (TIME_ID, 'MM') IS NOT NULL

```

DATE_DAY	AGENCY_NAME	AGENCY_COUNTRY	AGENCY_CITY	REVENUE_GROSS	REVENUE_NET	COST_GROSS	COST_NET	PROFIT_GROSS	PROFIT_NET	GROUPING_ID
10 01-JAN-22	Starcom	Spain	(null)	9213490.01	7614455.25	1146367.31	947411	8067122.7	6667044.21	1
11 01-JAN-22	Starcom	Switzerland	(null)	1819977.79	1689858.98	1029297.11	955706	790652.25	734152.73	1
12 01-JAN-22	Starcom	UAE	(null)	3594096.88	3422949.19	994671.3	947306	2599425.56	2475643.19	1
13 01-JAN-22	Starcom	United Kingdom	(null)	5058015.23	4215014.16	1136858.4	947382	3921156.72	3267631.59	1
14 01-JAN-22	Starcom	United States	(null)	5046478.23	4388243.47	1104147.2	960128	3942330.92	3428114.95	1
15 01-JAN-22	Starcom	(null)	Barcelona	9213490.01	7614455.25	1146367.31	947411	8067122.7	6667044.21	2
16 01-JAN-22	Starcom	(null)	Berlin	2949625.12	2478677.1	1146626.88	963552	1802998.23	1515124.78	2
17 01-JAN-22	Starcom	(null)	Cairo	4797528.32	4208360	1087516.68	953962	3710011.63	3254397.4	2
18 01-JAN-22	Starcom	(null)	Dubai	3594096.88	3422949.19	994671.3	947306	2599425.56	2475643.19	2
19 01-JAN-22	Starcom	(null)	Hong Kong	4818889.61	4264505.61	1066093.98	943446	3752795.63	3321059.06	2
20 01-JAN-22	Starcom	(null)	London	5058015.23	4215014.16	1136858.4	947382	3921156.72	3267631.59	2
21 01-JAN-22	Starcom	(null)	Milano	7102560.0	1724227.01	1152226.27	961222	561222.57	577071.49	2

Code:

```

select
    TRUNC (TIME_ID, 'MM') as date_day,
    agency_name,
    agency_country,
    agency_city,
    SUM (ROUND(((promotion_metric_amount*promotion_price*(1-
promotion_distinct_percent/100))*agency_fee_percent/100)*(1+agency_VAT_percent/100),2)) as Revenue_GROSS,
    SUM (ROUND(((promotion_metric_amount*promotion_price*(1-
promotion_distinct_percent/100))*agency_fee_percent/100),2)) as Revenue_NET,
    SUM (ROUND(employee_salary_project*(1+ agency_VAT_percent/100),2)) as Cost_GROSS,
    SUM (employee_salary_project) as Cost_NET,
    SUM (ROUND((((promotion_metric_amount*promotion_price*(1-
promotion_distinct_percent/100))*agency_fee_percent/100)*(1+agency_VAT_percent/100))-(employee_salary_project*(1+
agency_VAT_percent/100)),2)) as Profit_GROSS,
    SUM (ROUND((((promotion_metric_amount*promotion_price*(1-
promotion_distinct_percent/100))*agency_fee_percent/100)-employee_salary_project,2)) as Profit_NET,
    GROUPING_ID(agency_name,agency_country,agency_city) AS grouping_id
from SA_TRANSACTION
GROUP BY TRUNC (TIME_ID, 'MM'), GROUPING SETS ((agency_name, agency_country), (agency_name,agency_city))
HAVING TRUNC (TIME_ID, 'MM') IS NOT NULL
and agency_name IS NOT NULL
order by TRUNC (TIME_ID, 'MM'), agency_name, agency_country, agency_city;

```

- USE: Grouping() function

```

307 select
308   TRUNC (TIME_ID, 'MM') as date_month,
309   agency_name,
310   agency_country,
311   agency_city,
312   SUM (ROUND(((promotion_metric_amount*promotion_price*(1-promotion_distinct_percent/100))*agency_fee_percent/100)*(1+agency_VAT_percent/100),2)) as Revenue_GROSS,
313   SUM (ROUND(((promotion_metric_amount*promotion_price*(1-promotion_distinct_percent/100))*agency_fee_percent/100),2)) as Revenue_NET,
314   SUM (ROUND(employee_salary_project*(1+ agency_VAT_percent/100),2)) as Cost_GROSS,
315   SUM (employee_salary_project) as Cost_NET,
316   SUM (((promotion_metric_amount*promotion_price*(1-promotion_distinct_percent/100))*agency_fee_percent/100)*(1+agency_VAT_percent/100))-(employee_salary_project*(1+ agency_VAT_percent/100)),2)) as Profit_NET,
317   GROUPING(agency_name) AS f1g,
318   GROUPING(agency_country) AS f2g,
319   GROUPING(agency_city) AS f3g
320 from SA_TRANSACTION
321 GROUP BY TRUNC (TIME_ID, 'MM'), CUBE (agency_name, agency_country, agency_city)
322 HAVING TRUNC (TIME_ID, 'MM') IS NOT NULL
323 and agency_name IS NOT NULL
324 order by TRUNC (TIME_ID, 'MM'), agency_name, agency_country, agency_city;
  
```

Query Result | Fetched 300 rows in 0.924 seconds

DATE_MONTH	AGENCY_NAME	AGENCY_COUNTRY	AGENCY_CITY	REVENUE_GROSS	REVENUE_NET	COST_GROSS	COST_NET	PROFIT_GROSS	PROFIT_NET	F1G	F2G	F3G
1 01-JAN-22	Starcom	Australia	Sydney	1087492.15	864461.89	1216541.38	967044	-129049.34	-102582.84	0	0	0
2 01-JAN-22	Starcom	Australia	(null)	1087492.15	864461.89	1216541.38	967044	-129049.34	-102582.84	0	0	1
3 01-JAN-22	Starcom	China	Hong Kong	4818889.61	4264505.61	1066093.98	943446	3752795.63	3321059.06	0	0	0
4 01-JAN-22	Starcom	China	Shanghai	4823823.53	4268872	1070868.23	947671	3752955.28	3321200.5	0	0	0
5 01-JAN-22	Starcom	China	(null)	9642713.14	8533377.61	2136962.21	1891117	7505750.91	6642259.56	0	0	1
6 01-JAN-22	Starcom	Cyprus	Nicosia	7149559.25	6008033.44	1130876.04	950316	6018683.21	5057717.36	0	0	0
7 01-JAN-22	Starcom	Cyprus	(null)	7149559.25	6008033.44	1130876.04	950316	6018683.21	5057717.36	0	0	1
8 01-JAN-22	Starcom	Egypt	Cairo	4797528.32	4208360	1087516.68	953962	3710011.63	3254397.4	0	0	0
9 01-JAN-22	Starcom	Egypt	(null)	4797528.32	4208360	1087516.68	953962	3710011.63	3254397.4	0	0	1
10 01-JAN-22	Starcom	France	Paris	2054998.63	1712499.22	1146770.4	955642	908228.23	756856.86	0	0	0

Code:

select

```

TRUNC (TIME_ID, 'MM') as date_month,
agency_name,
agency_country,
agency_city,
SUM (ROUND(((promotion_metric_amount*promotion_price*(1-
promotion_distinct_percent/100))*agency_fee_percent/100)*(1+agency_VAT_percent/100),2)) as Revenue_GROSS,
SUM (ROUND(((promotion_metric_amount*promotion_price*(1-
promotion_distinct_percent/100))*agency_fee_percent/100),2)) as Revenue_NET,
SUM (ROUND(employee_salary_project*(1+ agency_VAT_percent/100),2)) as Cost_GROSS,
SUM (employee_salary_project) as Cost_NET,
SUM (ROUND(((promotion_metric_amount*promotion_price*(1-
promotion_distinct_percent/100))*agency_fee_percent/100)*(1+agency_VAT_percent/100))-(employee_salary_project*(1+
agency_VAT_percent/100)),2)) as Profit_GROSS,
SUM (ROUND((((promotion_metric_amount*promotion_price*(1-
promotion_distinct_percent/100))*agency_fee_percent/100)-employee_salary_project),2)) as Profit_NET,
GROUPING(agency_name) AS f1g,
GROUPING(agency_country) AS f2g,
GROUPING(agency_city) AS f3g
from SA_TRANSACTION
GROUP BY TRUNC (TIME_ID, 'MM'), CUBE (agency_name, agency_country, agency_city)
HAVING TRUNC (TIME_ID, 'MM') IS NOT NULL
and agency_name IS NOT NULL
order by TRUNC (TIME_ID, 'MM'), agency_name, agency_country, agency_city;
  
```

3.3. Task 05: CREATE Test AdHoc SQL – ROLLUP by Time

Creation of annual/ quarterly/ monthly / daily reports layouts in excel.

A	B	C	D	E	F	G	H	I	J	K
19 annual/quarterly/monthly/daily				Revenue, Gross, \$	Revenue, Net, \$	Cost, Gross, \$	Cost, Net, \$	Profit, Gross, \$	Profit, Net, \$	
20 annual/quarterly/monthly/daily				Salary, Gross, \$	Salary, Net, \$					

Let's will calculate Time Based Reports

- USE: ROLLUP & Grouping() function

The screenshot shows a SQL query builder interface with the following details:

Query:

```

343      end month
344      case grouping(to_char(TIME_ID, 'DAY'))
345      when 1
346      then 'All Days'
347      else to_char(TIME_ID, 'DAY')
348      end day
349      SUM (ROUND(((promotion_metric_amount*promotion_price*(1-promotion_distinct_percent/100)*agency_fee_percent/100)*(1+agency_VAT_percent/100),2)) as Revenue_GROSS
350      , SUM (ROUND(((promotion_metric_amount*promotion_price*(1-promotion_distinct_percent/100)*agency_fee_percent/100)*(1+agency_VAT_percent/100),2)) as Revenue_NET
351      , SUM (ROUND(employee_salary_project*(1+ agency_VAT_percent/100),2)) as Cost_GROSS
352      , SUM (employee_salary_project) as Cost_NET
353      , SUM (ROUND(((promotion_metric_amount*promotion_price*(1-promotion_distinct_percent/100)*agency_fee_percent/100)*(1+agency_VAT_percent/100))-(employee_salary_project*(1+ agency_VAT_percent/100)),2)) as Profit_GROSS
354      , SUM (ROUND(((promotion_metric_amount*promotion_price*(1-promotion_distinct_percent/100)*agency_fee_percent/100)*(1+agency_VAT_percent/100))-employee_salary_project,2)) as Profit_NET
355      FROM SA_TRANSACTION
356      GROUP BY ROLLUP
357      ( extract(year from TIME_ID)
358      , 'Q'||to_char(TIME_ID, 'Q')
359      , to_char(TIME_ID, 'MONTH')
360      , to_char(TIME_ID, 'DAY'))
361
  
```

Query Result:

YEAR	QUARTER	MONTH	DAY	REVENUE_GROSS	REVENUE_NET	COST_GROSS	COST_NET	PROFIT_GROSS	PROFIT_NET	
52	2022	Q1	MARCH	All Days	69942057.43	59541532.54	16782887.55	14324052	53159171.46	45217475.99
53	2022	Q2	APRIL	All Days	67700034.25	57620043.59	16197508.94	13823913	51502526.26	43796126.09
54	2022	Q2	MAY	All Days	70040549.3	59622260.05	16768528.37	14313747	53272022.79	45308507.74
55	2022	Q2	JUNE	All Days	66666509.45	56736334.8	16224818.16	13847563	50441692.44	42888767.17
56	2022	Q3	JULY	All Days	43176592.47	36750041.89	10340195.31	8826010	32836398.19	27924029.13
57	2022	Q1	All Mo...	All Days	203093563.14	172890588.7	48663072.87	41529924	154430494.09	13136065...
58	2022	Q2	All Mo...	All Days	204407093	173978638.44	49190855.47	41985223	155216241.49	131993401
59	2022	Q3	All Mo...	All Days	43176592.47	36750041.89	10340195.31	8826010	32836398.19	27924029.13
60	2022	All Qu...	All Mo...	All Days	450677248.61	383619269.03	10819412...	92341157	342483133.77	291278081.1
61	All...	All Qu...	All Mo...	All Days	450677248.61	383619269.03	10819412...	92341157	342483133.77	291278081.1

Code:

```

SELECT case grouping(extract(year from TIME_ID))
when 1
then 'All Years'
else to_char(extract(year from TIME_ID))
end year
, case grouping('Q'||to_char(TIME_ID, 'Q'))
when 1
then 'All Quarters'
else 'Q'||to_char(TIME_ID, 'Q')
end quarter
, case grouping(to_char(TIME_ID, 'MONTH'))
when 1
then 'All Months'
else to_char(TIME_ID, 'MONTH')
end month
, case grouping(to_char(TIME_ID, 'DAY'))
when 1
then 'All Days'
else to_char(TIME_ID, 'DAY')
end day
, SUM (ROUND(((promotion_metric_amount*promotion_price*(1-
promotion_distinct_percent/100)*agency_fee_percent/100)*(1+agency_VAT_percent/100),2)) as Revenue_GROSS
  
```

```

,   SUM (ROUND(((promotion_metric_amount*promotion_price*(1-
promotion_distinct_percent/100))*agency_fee_percent/100),2)) as Revenue_NET
,   SUM (ROUND(employee_salary_project*(1+ agency_VAT_percent/100),2)) as Cost_GROSS
,   SUM (employee_salary_project) as Cost_NET
,   SUM (ROUND(((promotion_metric_amount*promotion_price*(1-
promotion_distinct_percent/100))*agency_fee_percent/100)*(1+agency_VAT_percent/100)-(employee_salary_project*(1+
agency_VAT_percent/100)),2)) as Profit_GROSS
,   SUM (ROUND((((promotion_metric_amount*promotion_price*(1-
promotion_distinct_percent/100))*agency_fee_percent/100)-employee_salary_project),2)) as Profit_NET
FROM SA_TRANSACTION
GROUP
BY ROLLUP
( extract(year from TIME_ID)
,'Q'||to_char(TIME_ID, 'Q')
,to_char(TIME_ID, 'MONTH')
,to_char(TIME_ID, 'DAY'))
;

```

The screenshot shows a SQL worksheet interface with the following details:

- Toolbar:** Includes tabs for Welcome Page, VeraDB, and Lab 3_Tasks 03-05_Reports.sql. Below the tabs are buttons for Run, Stop, Refresh, Save, and others.
- Worksheet Tab:** Active tab, showing the full SQL query with line numbers 377 through 392.
- Query Builder:** A large blue area where the query is displayed.
- Query Result Tab:** Shows the results of the executed query. The message indicates "Fetched 50 rows in 0.584 seconds".
- Table:** The results are presented in a table with the following columns and data:

YEAR	QUARTER	MONTH	DAY	EMPLOYEE_SALARY_PROJECT_GROSS	EMPLOYEE_SALARY_PROJECT_NET	
13	2022	Q1	FEBRUARY	SUNDAY	2157822.9	1841336
14	2022	Q1	FEBRUARY	MONDAY	2157083.58	1840688
15	2022	Q1	MARCH	TUESDAY	2717264.22	2319780
16	2022	Q1	MARCH	WEDNESDAY	2687911.03	2293649
17	2022	Q1	MARCH	THURSDAY	2716553.62	2318527
18	2022	Q1	MARCH	FRIDAY	2177545.92	1857760
19	2022	Q1	MARCH	SATURDAY	2170082.29	1851937
20	2022	Q1	MARCH	SUNDAY	2144383.71	1831048
21	2022	Q1	MARCH	MONDAY	2169146.76	1851351
22	2022	Q2	APRIL	FRIDAY	2708740.12	2312701
23	2022	Q2	APRIL	SATURDAY	2679057.4	2285639
24	2022	Q2	APRIL	SUNDAY	2160309.04	1843902

Code:

```
SELECT case grouping(extract(year from TIME_ID))
when 1
then 'All Years'
else to_char(extract(year from TIME_ID))
end year
, case grouping('Q'||to_char(TIME_ID, 'Q'))
when 1
then 'All Quarters'
else 'Q'||to_char(TIME_ID, 'Q')
end quarter
, case grouping(to_char(TIME_ID, 'MONTH'))
when 1
then 'All Months'
else to_char(TIME_ID, 'MONTH')
end month
, case grouping(to_char(TIME_ID, 'DAY'))
when 1
then 'All Days'
else to_char(TIME_ID, 'DAY')
end day
, SUM (ROUND(employee_salary_project*(1+ agency_VAT_percent/100),2)) as employee_salary_project_GROSS
, SUM (employee_salary_project) as employee_salary_project_NET
FROM SA_TRANSACTION
GROUP
BY ROLLUP
( extract(year from TIME_ID)
,'Q'||to_char(TIME_ID, 'Q')
,to_char(TIME_ID, 'MONTH')
,to_char(TIME_ID, 'DAY'))
;
```