

National Institute of Technology, Warangal, Telangana state

KE ASSIGNMENT

Date : 7th March 2022



Topic : KE Lab Assignment

Submitted by:

Kundan Kumar

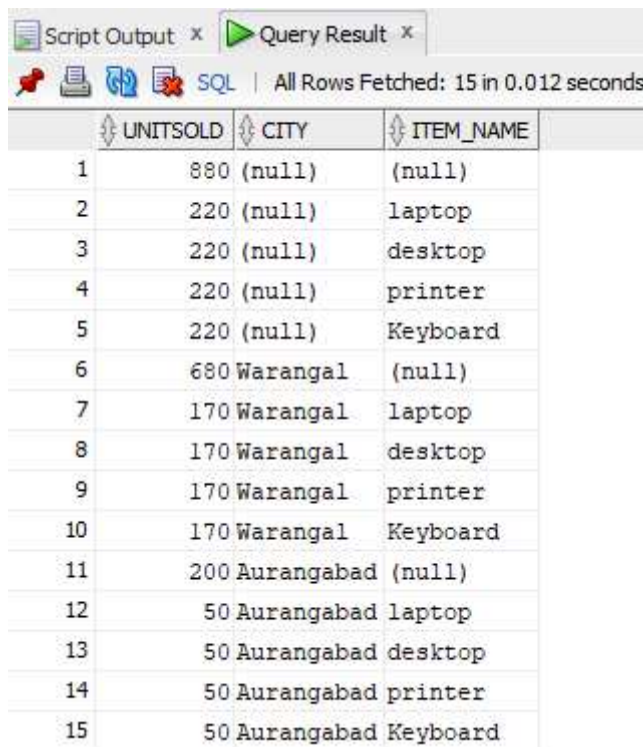
Roll No : 207929

MCA 2nd Year

Q1. a. Compute the sum of sales, grouping by City and Item name.

Query: select sum(f.units_sold) as UnitSold, t.city,i.item_name
 from sales_fact f, location_dimension t , item_dimension i
 where f.location_key = t.location_key
 group by cube(t.city,i.item_name);

Output:



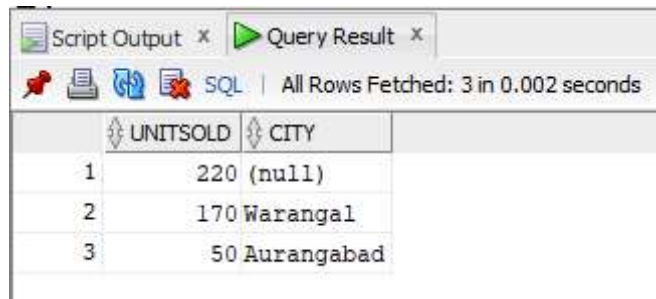
The screenshot shows a database query result window with two tabs: 'Script Output' and 'Query Result'. The 'Query Result' tab is active, displaying 15 rows of data. The columns are 'UNIT SOLD', 'CITY', and 'ITEM_NAME'. The data is grouped by city and item name, with rows 1-5 representing a null city and rows 6-15 representing two cities: Warangal and Aurangabad.

	UNIT SOLD	CITY	ITEM_NAME
1	880	(null)	(null)
2	220	(null)	laptop
3	220	(null)	desktop
4	220	(null)	printer
5	220	(null)	Keyboard
6	680	Warangal	(null)
7	170	Warangal	laptop
8	170	Warangal	desktop
9	170	Warangal	printer
10	170	Warangal	Keyboard
11	200	Aurangabad	(null)
12	50	Aurangabad	laptop
13	50	Aurangabad	desktop
14	50	Aurangabad	printer
15	50	Aurangabad	Keyboard

Q1.b Compute the sum of sales, grouping by city.

Query: select sum(f.units_sold) as UnitSold, t.city
 from sales_fact f, location_dimension t
 where f.location_key = t.location_key
 group by cube(t.city);

Output:

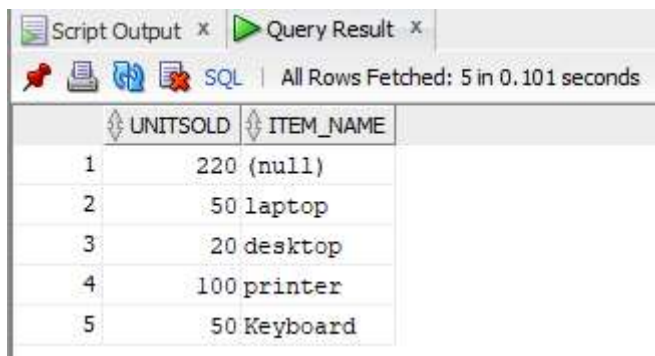


	UNITSOLD	CITY
1	220 (null)	
2	170	Warangal
3	50	Aurangabad

Q1.c Compute the sum of sales, grouping by item.

Query: `select sum(f.units_sold) as UnitSold, (i.item_name, t.city)
from sales_fact f, item_dimension i
where f.item_key = i.item_key
group by cube(i.item_name);`

Output:



	UNITSOLD	ITEM_NAME
1	220 (null)	
2	50	laptop
3	20	desktop
4	100	printer
5	50	Keyboard

Q1.d What is the maximum number of cells in the base cuboid.

Sol'n: Formula for maximum number of cells in the base cuboid is :

$$(p+1)^n$$

Here $p=4$, $n = 4$

So $(p+1)^n \Rightarrow (4+1)^4 \Rightarrow 625$ Ans.

Q1.e What is the maximum number of cells in the base cuboid.

Sol'n: Formula for minimum number of cells in the base cuboid is : p

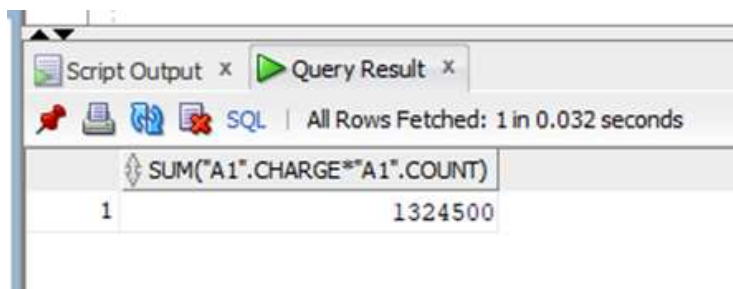
Here p=4 => 4 Ans.

Q2.a Implement that operation using OLAP query language.

Query :

```
select sum("A1".charge*"A2".count)
from "SYSTEM"."game_sales" "A1",
"SYSTEM"."game_location" "A2",
"SYSTEM"."game_spectators" "A3",
"SYSTEM"."game_date" "A4",
where
(
  "A2".city = 'GM_PLACE' and
  "A4".year = '2013' and
  "A3".type = 'Adult'
)
group by
"A2".city;
select * from game;
```

Output :



The screenshot shows a database query result window with two tabs: 'Script Output' and 'Query Result'. The 'Query Result' tab is active, displaying the results of an SQL query. The query is: `SUM("A1".CHARGE*"A1".COUNT)`. The result is a single row with the value 1324500. The window also shows a status bar indicating 'All Rows Fetched: 1 in 0.032 seconds'.

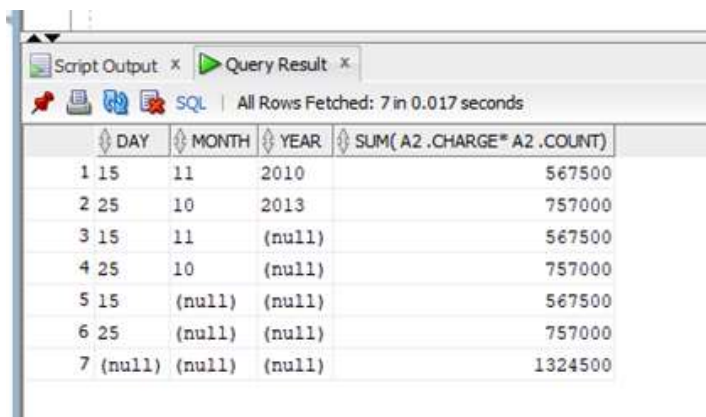
SUM("A1".CHARGE*"A1".COUNT)
1324500

Q2.b: Perform roll up operation from date to year.

Query:

```
SELECT
    "A1"."DAY"      "DAY",
    "A1"."MONTH"    "MONTH",
    "A1"."YEAR"     "YEAR",
    SUM("A2"."CHARGE" * "A2"."COUNT") "SUM( A2 .CHARGE* A2
    .COUNT)" FROM
    "SYSTEM"."game_sales " "A2",
    "SYSTEM"."game_dates" "A1"
WHERE
    "A2"."date_id" = "A1"."date_id"
GROUP BY
    ROLLUP("A1"."DAY","A1"."MONTH","A1"."YEAR");
```

Output:



The screenshot shows a database query result window with a table containing 7 rows and 5 columns. The columns are DAY, MONTH, YEAR, and SUM(A2.CHARGE * A2.COUNT). The data is grouped by ROLLUP on DAY, MONTH, and YEAR. The first three rows show data for specific days and months in 2010 and 2013. The next three rows show data for specific days and months with null values for the other columns. The final row shows the total sum for all data.

DAY	MONTH	YEAR	SUM(A2.CHARGE * A2.COUNT)
1 15	11	2010	567500
2 25	10	2013	757000
3 15	11	(null)	567500
4 25	10	(null)	757000
5 15	(null)	(null)	567500
6 25	(null)	(null)	757000
7 (null)	(null)	(null)	1324500

Q2.c : What is the average charge paid by students, adults and seniors for each category you need to compute average?

Query :

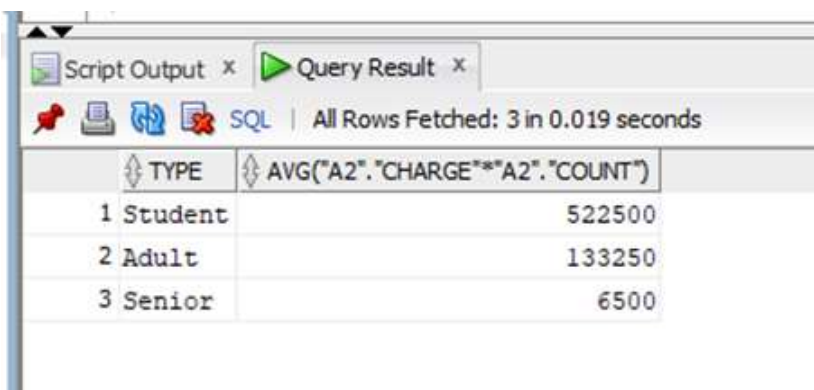
```
SELECT
    "A1"."TYPE",
    AVG("A2"."CHARGE" *
    "A2"."COUNT") FROM
    "SYSTEM"."game_sales"
    "A2", "SYSTEM"."spectators"
    "A1"

WHERE

    "A1".spec_id="A2".spec_i
d GROUP BY

    "A1"."TYPE";
```

Output:



The screenshot shows a database query result window. At the top, there are tabs for 'Script Output' and 'Query Result'. Below the tabs, there are icons for a pin, a printer, a refresh, a delete, and a SQL icon. To the right of these icons, it says 'All Rows Fetched: 3 in 0.019 seconds'. The main area of the window displays a table with the following data:

	TYPE	AVG("A2"."CHARGE"*"A2"."COUNT")
1	Student	522500
2	Adult	133250
3	Senior	6500

Q2.d : Snowflake diagram for the above data warehouse.

