

Knowledge Engineering LAB

Assignment 4

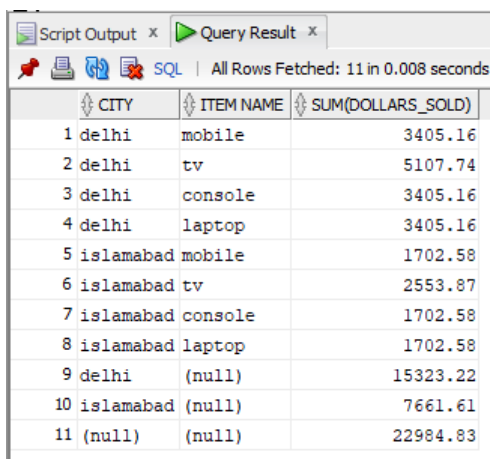
Q1.

Solu.

A.

```
SELECT
    "A2"."CITY"                "CITY",
    "A1"."ITEM_NAME"           "ITEM NAME",
    SUM("A3"."DOLLARS_SOLD")    "SUM(DOLLARS_SOLD)"
FROM
    "SYSTEM"."SALES"           "A3",
    "SYSTEM"."LOCATION"          "A2",
    "SYSTEM"."ITEM"             "A1"
GROUP BY
    ROLLUP("A2"."CITY",
           "A1"."ITEM_NAME");
```

OUTPUT:



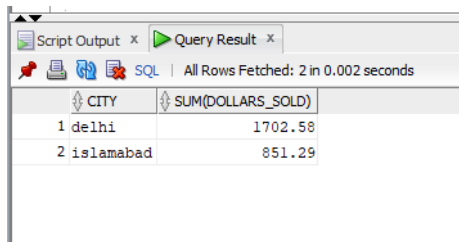
The screenshot shows a database query result window with two tabs: 'Script Output' and 'Query Result'. The 'Query Result' tab is active, displaying a table with 11 rows and 3 columns: CITY, ITEM NAME, and SUM(DOLLARS_SOLD). The status bar indicates 'All Rows Fetched: 11 in 0.008 seconds'.

	CITY	ITEM NAME	SUM(DOLLARS_SOLD)
1	delhi	mobile	3405.16
2	delhi	tv	5107.74
3	delhi	console	3405.16
4	delhi	laptop	3405.16
5	islamabad	mobile	1702.58
6	islamabad	tv	2553.87
7	islamabad	console	1702.58
8	islamabad	laptop	1702.58
9	delhi	(null)	15323.22
10	islamabad	(null)	7661.61
11	(null)	(null)	22984.83

B.

```
SELECT
    "A2"."CITY"    "CITY",
    SUM("A1"."DOLLARS_SOLD") "SUM(DOLLARS_SOLD)"
FROM
    "SYSTEM"."SALES" "A1",
    "SYSTEM"."LOCATION" "A2"
GROUP BY "A2"."CITY";
```

OUTPUT:

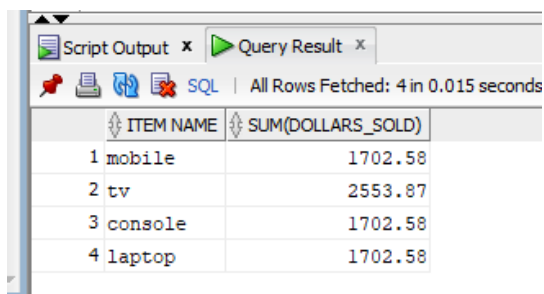


	CITY	SUM(DOLLARS_SOLD)
1	delhi	1702.58
2	islamabad	851.29

C.

```
SELECT
    "A2"."ITEM_NAME"    "ITEM NAME",
    SUM("A1"."DOLLARS_SOLD") "SUM(DOLLARS_SOLD)"
FROM
    "SYSTEM"."SALES" "A1",
    "SYSTEM"."ITEM" "A2"
GROUP BY "A2"."ITEM_NAME";
```

OUTPUT:



	ITEM NAME	SUM(DOLLARS_SOLD)
1	mobile	1702.58
2	tv	2553.87
3	console	1702.58
4	laptop	1702.58

D.

Maximum number of cells in the base cuboid: 3888

E.

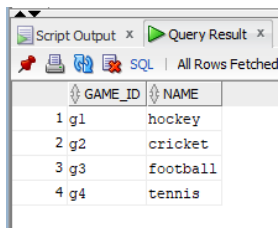
Minimum number of cells in the base cuboid: 1

Q2

Solu.

Tables and their data

- Game Table

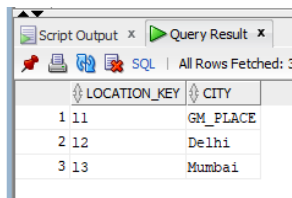


Script Output x Query Result x

SQL | All Rows Fetched

GAME_ID	NAME
1 g1	hockey
2 g2	cricket
3 g3	football
4 g4	tennis

- Location_Game Table

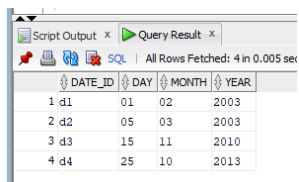


Script Output x Query Result x

SQL | All Rows Fetched: 3

LOCATION_KEY	CITY
1 11	GM_PLACE
2 12	Delhi
3 13	Mumbai

- Date_Game Table

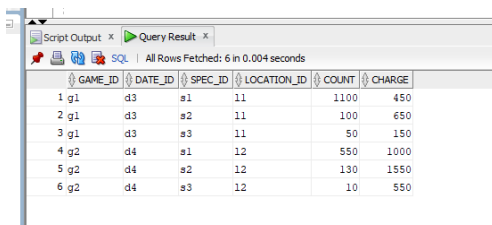


Script Output x Query Result x

SQL | All Rows Fetched: 4 in 0.005 sec

DATE_ID	DAY	MONTH	YEAR
1 d1	01	02	2003
2 d2	05	03	2003
3 d3	15	11	2010
4 d4	25	10	2013

- Sales_Game Table

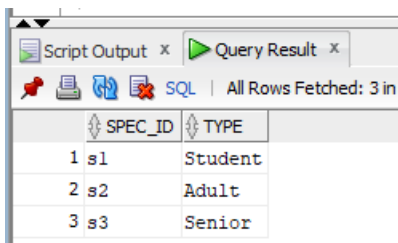


Script Output x Query Result x

SQL | All Rows Fetched: 6 in 0.004 seconds

GAME_ID	DATE_ID	SPEC_ID	LOCATION_ID	COUNT	CHARGE
1 g1	d3	s1	11	1100	450
2 g1	d3	s2	11	100	650
3 g1	d3	s3	11	50	150
4 g2	d4	s1	12	550	1000
5 g2	d4	s2	12	130	1550
6 g2	d4	s3	12	10	550

- Spectator Table



Script Output x Query Result x

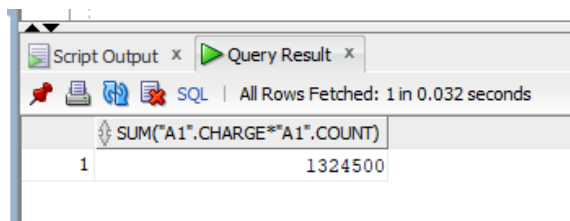
SQL | All Rows Fetched: 3 in

SPEC_ID	TYPE
1 s1	Student
2 s2	Adult
3 s3	Senior

i)

```
SELECT
    SUM("A1".charge*"A1".count)
FROM
    "SYSTEM"."SALES_GAME"    "A1",
    "SYSTEM"."LOCATION_GAME"   "A2",
    "SYSTEM"."SPECTATOR"     "A3",
    "SYSTEM"."DATE_GAME"     "A4"
WHERE
    (
        "A2".city='GM_PLACE' and
        "A4".year='2010' and
        "A3".type='Student'
    )
GROUP BY
    "A2".city;
```

OUTPUT:



The screenshot shows a database interface with a 'Query Result' tab. It displays the SQL query: `SUM("A1".CHARGE**"A1".COUNT)`. The result is a single row with two columns: an index '1' and the sum value '1324500'. The status bar indicates 'All Rows Fetched: 1 in 0.032 seconds'.

	SUM("A1".CHARGE**"A1".COUNT)
1	1324500

ii)

```
SELECT
    "A1"."DAY"                "DAY",
    "A1"."MONTH"              "MONTH",
    "A1"."YEAR"               "YEAR",
    SUM("A2"."CHARGE" * "A2"."COUNT") "SUM( A2 .CHARGE* A2 .COUNT)"
FROM
    "SYSTEM"."SALES_GAME" "A2",
    "SYSTEM"."DATE_GAME"  "A1"
WHERE
    "A2"."DATE_ID" = "A1"."DATE_ID"
GROUP BY
    ROLLUP("A1"."DAY",
```

```
"A1"."MONTH",
"A1"."YEAR");
```

OUTPUT:

	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

iii)

```
SELECT
    "A1"."TYPE",
    AVG("A2"."CHARGE" * "A2"."COUNT")
FROM
    "SYSTEM"."SALES_GAME" "A2",
    "SYSTEM"."SPECTATOR" "A1"
WHERE
    "A1".SPEC_ID="A2".SPEC_ID
GROUP BY
    "A1"."TYPE";
```

OUTPUT:

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

iv)

Snowflake diagram for the above datawarehouse

