

**business scenario:**

**Gift-A-Gift.com** is a website to order and send across wide range of gifts.

To manage the transactions on the website the following database schema has been designed.

The gift table provides details of the gift Items.

**Table: gift**

Column Name	Data type and size	Constraints	Description
giftid	VARCHAR2(5)	PRIMARY KEY, CHECK	unique id of each gift, should start with 'G'
giftname	VARCHAR2(20)	UNIQUE,NOT NULL	description of the gift
category	VARCHAR2(15)		type of the gift
price	NUMBER	CHECK	price of the gift, should be greater than 0
discount	NUMBER		discount applicable in percentage
availability	NUMBER		number of units available

The customer table provides the details of the customers.

**Table: customer**

Column Name	Data type and size	Constraints	Description
customerid	VARCHAR2(5)	PRIMARY KEY, CHECK	unique id of each customer, should start with 'C'
customername	VARCHAR2(15)		name of the customer
location	VARCHAR2(15)		location of the customer

The giftorder table provides the order details.

Sample data for gift table

giftid	giftname	category	price	discount	availability
G101	Dream Catcher	Showpiece	500	10	63
G102	Cinnamon Candles	Home Decor	550	5	35
G103	Watch Box	Utilities	2000	20	18
G104	Music Plant Lamp	Home Decor	1500	15	5
G105	Crystal Platter	Utilities	2999	7	10
G106	Crystal Chariot	Showpiece	2000	15	32
G107	Wood Coaster Set	Utilities	1300	30	30
G108	Golden Foil Rose	Showpiece	500	30	30
G109	Photo Frames	Home Decor	500	30	30

Sample data for customer table

customerid	customername	location
C101	Jack	Delhi
C102	John	Bangalore
C103	Sam	Mumbai
C104	Andrew	Bangalore
C105	Anne	Delhi
C106	Maria	Mumbai
C107	Jeny	Bangalore

Sample data for giftorder table

orderid	customerid	giftid	quantity	shippingcity
1001	C102	G104	2	Delhi
1002	C103	G102	5	Bangalore
1003	C105	G101	3	Bangalore
1004	C102	G104	1	Bangalore
1005	C101	G103	9	Mysore
1006	C102	G101	8	Mumbai
1007	C105	G106	4	Chennai
1008	C105	G107	4	Chennai
1009	C105	G108	5	Mumbai
1010	C106	G105	6	Mysore

A. Display the numeric part of **giftid** as "GIFTNUM" (column alias), **giftname** and reduction in price per quantity rounded to the nearest whole number as "PRICEREDUCTION" (column alias) of the 'Utilities' category gifts.

For the given sample data, following record will feature as part of the output along with other record(s).

GIFTNUM	GIFTNAME	PRICEREDUCTION
103	Watch Box	400

	GIFTNUM	GIFTNAME	PRICEREDUCTION
1	103	Watch Box	400
2	105	Crystal Platter	210
3	107	Wood Coaster Set	390

dbms\_solB

dbms\_solA

dbms\_solC

dbms\_solD

```
1 SELECT to_number (substr(giftid,2)) AS giftnum,
2 giftname, round (price*discount/100.0) AS pricereduction
3 FROM gift
4 WHERE category = 'Utilities'
```

B. Display **customerid** and **giftid** of the giftorders which are been ordered for the gifts of the category *other* than the 'Home Decor'.

For the given sample data, following records will feature as part of the output along with other record(s).

CUSTOMERID	GIFTID
C105	G106
C101	G103

dbms\_solB

dbms\_solA

dbms\_solC

```
1 SELECT DISTINCT
2 gfo.customerid,gfo.giftid
3 FROM gift g, giftorder gfo
4 WHERE g.giftid=gfo.giftid
5 AND g.category != 'Home Decor'
```

	CUSTOMERID	GIFTID
1	C102	G101
2	C105	G101
3	C105	G106
4	C105	G108
5	C105	G107
6	C106	G105
7	C101	G103

Note: Type the solution in **dbms\_s**

- C. Display **giftid** and orderid as "**ORDERS**" (column alias) of all the gifts that have been shipped to 'Mysore' city. Display 'NA' in **ORDERS** for the gifts that are not been shipped to 'Mysore' and also for the unordered gifts.

For the given sample data, following records will feature as part of the output along with other record(s).

GIFTID	ORDERS
G105	1010
G104	NA

```

dbms_solB dbms_solA dbms_solC dbms_solD dbms_solE
1 SELECT gfo.giftid,
2 NVL (to_char(gfo1.orderid), 'NA') AS orders
3 FROM gift gfo LEFT JOIN giftorder gfo1
4 ON gfo.giftid=gfo1.GIFTID AND gfo1.SHIPPINGCITY = 'Mysore'

```

	GIFTID	ORDERS
1	G103	1005
2	G105	1010
3	G104	NA
4	G109	NA
5	G106	NA
6	G107	NA
7	G101	NA
8	G108	NA
9	G102	NA

Note: Type the solution in **dbms\_solC.sql** file.

- D. Display **giftid**, **giftname**, **availability** and number of times the order placed as "**NOOFORDERS**" (column alias) for those gifts that are available more than 40 units and has been ordered twice or more times.

For the given sample data, following is the expected output.

GIFTID	GIFTNAME	AVAILABILITY	NOOFORDERS
G101	Dream Catcher	63	2

```

dbms_solB dbms_solA dbms_solC dbms_solD dbms_solE dbms_solF
1 SELECT g.giftid, g.giftname, g.availability, count(gf.giftid) AS nooforders
2 FROM gift g, giftorder gf
3 WHERE g.GIFTID= gf.giftid AND g.AVAILABILITY>40
4 GROUP BY g.GIFTID,g.giftname,g.AVAILABILITY
5 HAVING count(gf.GIFTID)>1

```

	GIFTID	GIFTNAME	AVAILABILITY	NOOFORDERS
1	G101	Dream Catcher	63	2

E. Display **orderid** as "ORDERNUM" (column alias) and **customerid** as "CUSTOMER" (column alias) for all the orders as well for all the customers.

Display 'N' in **CUSTOMER** for customers who do not belong to 'Bangalore' and 'NA' in **ORDERNUM** if the order is not placed or if the order is placed by the customers who do not belong to 'Bangalore'.

For the given sample data, following records will feature as part of the output along with other record(s).

ORDERNUM	CUSTOMER
1001	C102
1010	N
NA	C101

```

1 SELECT NVL(to_char(ORDERID), 'NA') AS ordernum, NVL(to_char(c.customerid), 'N') AS customer
2 FROM giftorder gfo full join customer c
3 ON c.CUSTOMERID=gfo.CUSTOMERID AND location = 'Bangalore'

```

	orderid	CUSTOMER
8	1008	N
9	1009	N
10	1010	N
11	NA	C107
12	NA	C105
13	NA	C103
14	NA	C106
15	NA	C101
16	NA	C104

Note: Type the solution in **dbms\_solE.sql** file.

[3 marks]

F. Display **orderid**, **customerid** and **giftid** for those giftorders that have been placed by the same customer for the 'Home Decor' category gifts.

For the given sample data, following record will feature as part of the output along with other record(s).

ORDERID	CUSTOMERID	GIFTID
1004	C102	G104

```

1 SELECT DISTINCT gf.orderid, gf.customerid, gf.giftid
2 FROM giftorder gf, gift g, giftorder gf1
3 WHERE g.GIFTID = gf.GIFTID AND gf.CUSTOMERID = gf1.CUSTOMERID AND g.CATEGORY = 'Home Decor'
4 GROUP BY gf.orderid, gf.customerid, gf.giftid
5 HAVING count(gf.customerid) > 1
6

```

	ORDERID	CUSTOMERID	GIFTID
1	1004	C102	G104
2	1001	C102	G104

G. Identify the customer who has paid the **highest total billamount**.

Display the **customerid**, **customername** and **highest total billamount** as "TOTALBILL" (column alias).

**TOTALBILL** has to be rounded to the nearest whole number. **Billamount** can be calculated using price, discount and quantity.

For the given sample data, following is the expected output

CUSTOMERID	CUSTOMERNAME	TOTALBILL
C106	Maria	16734

	CUSTOMERID	CUSTOMERNAME	TOTALBILL
1	C106	Maria	16734

```

1 SELECT gfo.customerid, customername, round(sum(price*quantity*(1-discount/100.0))) totalbill
2 FROM giftorder gfo, gift g, customer c WHERE gfo.giftid=g.GIFTID AND gfo.CUSTOMERID=c.customerid
3 GROUP BY gfo.customerid, customername
4 HAVING round(sum(price*quantity*(1-discount/100.0)))=
5 (SELECT round(max(sum(price*quantity*(1-discount/100.0)))) FROM giftorder gfo, gift g WHERE gfo.GIFTID=g.GIFTID GROUP BY customerid)

```

H. Identify the giftorders that are been placed by the customers from 'Delhi' for the gifts *other* than 'Showpiece' category and are been shipped to 'Chennai' city.

Display **orderid**, **giftid** and **customerid** for the identified giftorder.

For the given sample data, following is the expected output.

ORDERID	GIFTID	CUSTOMERID
1008	G107	C105

Write the query using the Correlated Subquery concept only.

Note: Type the solution in **dbms\_solH.sql** file. [3 marks]

```

1 SELECT gf.orderid, gf.giftid, gf.customerid
2 FROM giftorder gf
3 WHERE gf.customerid=
4 (SELECT c1.customerid FROM customer c1 WHERE location = 'Delhi' AND c1.customerid=gf.CUSTOMERID)
5 AND gf.GIFTID=
6 (SELECT g1.giftid FROM gift g1 WHERE category != 'Showpiece' AND g1.GIFTID=gf.GIFTID)
7 AND gf.ORDERID=
8 (SELECT gf1.orderid FROM giftorder gf1 WHERE shippingcity= 'Chennai' AND gf1.ORDERID=gf.ORDERID)

```

	ORDERID	GIFTID	CUSTOMERID
1	1008	G107	C105