

**Birla Institute of Technology and Science Pilani, Pilani Campus**  
**Department of Computer Science and Information System**  
**2<sup>nd</sup> Semester 2021-22**  
**Database System (CS F212)**  
**Lab Quiz May-2022 (Open Book) Solution**

**Maximum Marks:** 30(10%)

**Time:** 60 Minutes

- Q:-1.** List the name of vendors who supplied those products that are top 5 in the sale margin. [1]

productVendor
Classic Metal Creations
Second Gear Diecast
Red Start Diecast
Autoart Studio Design
Gearbox Collectibles

- Q:-2.** Write SQL queries to do the following task. [1+1+1=3]  
a. List the details of employees of India Motors with the name, ID, and designation of their boss.

[return 22 rows]

employeeID	firstName	jobTitle	reportsTo	employeeID	firstName	jobTitle
1056	Mary	VP Sales	1002	1002	Diane	President
1076	Jeff	VP Marketing	1002	1002	Diane	President
1088	William	Sales Manager (APAC)	1056	1056	Mary	VP Sales
1102	Gerard	Sale Manager (EMEA)	1056	1056	Mary	VP Sales
1143	Anthony	Sales Manager (NA)	1056	1056	Mary	VP Sales
1165	Leslie	Sales Rep	1143	1143	Anthony	Sales Manager (NA)
1166	Leslie	Sales Rep	1143	1143	Anthony	Sales Manager (NA)

- b. List the details of employees of India Motors who are not bosses of anyone.

[return 17 rows]

employeeID	lastName	firstName	extension	email	officeCode	reportsTo	jobTitle
1076	Firrelli	Jeff	x9273	jfirrelli@classicmodelcars.com	1	1002	VP Marketing
1165	Jennings	Leslie	x3291	ljennings@classicmodelcars.com	1	1143	Sales Rep
1166	Thompson	Leslie	x4065	lthompson@classicmodelcars.com	1	1143	Sales Rep
1188	Firrelli	Julie	x2173	jfirrelli@classicmodelcars.com	2	1143	Sales Rep
1216	Patterson	Steve	x4334	spatterson@classicmodelcars.com	2	1143	Sales Rep
1286	Tseng	Foon Yue	x2248	ftseng@classicmodelcars.com	3	1143	Sales Rep
1323	Vanauf	George	x4102	gvanauf@classicmodelcars.com	3	1143	Sales Rep

- c. List the details of employees of India Motors who are in the middle of the employee hierarchy.

[return 4 rows]

employeeID	lastName	firstName	extension	email	officeCode	reportsTo	jobTitle
1088	Patterson	William	x4871	wpatterson@classicmodelcars.com	6	1056	Sales Manager (APAC)
1102	Bondur	Gerard	x5408	gbondur@classicmodelcars.com	4	1056	Sale Manager (EMEA)
1143	Bow	Anthony	x5428	abow@classicmodelcars.com	1	1056	Sales Manager (NA)
1621	Nishi	Mami	x101	mnishi@classicmodelcars.com	5	1056	Sales Rep
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

- Q:-3.** Write SQL queries to do the following task. [1+1+1+1+1=5]

- a. Find the most frequent customer's name concerning the number of product types ordered in a single order.

	customerID	customerName	contactLastName	contactFirstName	phone	addressLine1	addressLine2	city	state	postalCode	country	sale
▶	278	Rovelli Gifts	Rovelli	Giovanni	035-640555	Via Ludovico il Moro 22	HULL	Bergamo	HULL	24100	Italy	140:
*	HULL	HULL	HULL	HULL	HULL	HULL	HULL	HULL	HULL	HULL	HULL	HULL

- b. Find the most frequent customer's name concerning the number of product types ordered in all orders.

	customerID	customerName	contactLastName	contactFirstName	phone	addressLine1	addressLine2
▶	141	Euro+ Shopping Channel	Freyre	Diego	(91) 555 94 44	C/Moralzarzal, 86	HULL
*	HULL	HULL	HULL	HULL	HULL	HULL	HULL

- c. Find the customer's name, ID, and amount paid for all orders is more than the average order amount for a single order.

**[return 94 rows]**

	customerID	customerName	p_count	amount
▶	489	Double Decker Gift Stores, Ltd	12	29586.15
	415	Bavarian Collectables Imports, Co.	14	31310.09
	173	Cambridge Collectables Co.	11	32198.69
	347	Men 'R' US Retailers, Ltd.	14	41506.19
	487	Signal Collectibles Ltd.	15	42570.37
	475	West Coast Collectables Co.	13	43748.72
	211	King Kong Collectables, Co.	12	45480.79
	344	CAF Imports	13	46751.14

- d. Find the customer's name, ID, and amount paid for a single order is more than the average order amount for a single order.

**[return 171 rows]**

	customerID	customerName	orderID	p_count	amount
▶	334	Suominen Souvenirs	10141	9	29716.86
	276	Anna's Decorations, Ltd	10391	10	29848.52
	167	Herkku Gifts	10188	8	29954.91
	487	Signal Collectibles Ltd.	10149	11	29997.09
	496	Kelly's Gift Shop	10399	8	30253.75
	462	FunGiftIdeas.com	10388	8	30293.77
	321	Corporate Gift Ideas Co.	10162	10	30876.44
	328	Tekni Collectables Inc.	10251	6	31102.85

- e. Find the customer's name, ID, and amount paid for a single order, for whom, the difference between the amount paid and the average order amount is minimum.

	customerID	customerName	orderID	p_count	amount
▶	334	Suominen Souvenirs	10141	9	29716.86

- Q:-4. VP Sales wants to analyze the performance of employees in their assigned countries. Write the query to help VP Sales to fetch the sales report to analyze the performance of sales representatives for each country. The format of the sales report is given below. **[2]**

employeeID	Name	officeCode	Country	No of Customer	No of Orders	Total Sales	Avg Sales/Ord	Avg Sales/Cust	Max Sales	Min Sales
1323	George Vanaufr	3	USA	35	93	3040029.52	32688.489462	86857.986286	111654.40	1679.92
1370	Gerard Hernandez	4	Spain	5	23	994438.53	43236.457826	198887.706000	120166.58	3101.40
1370	Gerard Hernandez	4	France	12	35	965750.58	27592.873714	80479.215000	53116.99	1676.14
1611	Andy Fixter	6	Australia	5	16	509385.82	31836.613750	101877.164000	82261.22	7565.08
1612	Peter Marsh	6	New Zealand	4	11	392486.59	35680.599091	98121.647500	75020.13	2880.00
1501	Larry Bott	7	UK	5	12	391503.90	32625.325000	78300.780000	52825.29	7310.42

**[return 21 rows]**

Q:-5. An old customer of Mami Nishi from Hong Kong wants to purchase two Ford Mustangs. The company offers a 10% discount for old customers. The delivery of cars is expected in next 10 days. Write a transaction to complete the purchase. **[4]**

Q:-6. Write SQL queries to do the following task. **[3+3]**

- a. Create a procedure "*Ideal\_Customers*," that prints the customers' ID and name, who purchased all types of products. Write queries to create a procedure and to call that procedure.

**[return 4 rows]**

	customerID	customerName
▶	131	Land of Toys Inc.
	141	Euro + Shopping Channel
	353	Reims Collectables
	398	Tokyo Collectables, Ltd

- b. Create a function "*address*" to fetch the complete office address as a single attribute. Write a test query to list the ID, first and last name of employees, along with full office address using function.

```
select employeeID, firstName, lastName,
address(emp.officeCode) Office_Address
from employees emp; [return 23 rows]
```

	employeeID	firstName	lastName	Office_Address
▶	1002	Diane	Murphy	100 Market Street Suite 300 San Francisco CA ...
	1056	Mary	Patterson	100 Market Street Suite 300 San Francisco CA ...
	1076	Jeff	Firrelli	100 Market Street Suite 300 San Francisco CA ...
	1088	William	Patterson	5-11 Wentworth Avenue Floor #2 Sydney Aust...
	1102	Gerard	Bondur	43 Rue Jouffroy D'abbans Paris France 75017
	1143	Anthony	Bow	100 Market Street Suite 300 San Francisco CA ...
	1165	Leslie	Jennings	100 Market Street Suite 300 San Francisco CA ...
	1166	Leslie	Thompson	100 Market Street Suite 300 San Francisco CA ...

Q:-7. Write SQL queries to do the following task. **[3+3]**

- a. The seller wishes to provide a facility to customers to find the product with two filters, namely "Most-Affordable" and "Most-Popular" product in each product category. Create a stored routine "*Product\_Search*" to facilitate these requirements. Also, write the test query to show the working of your queries.

```
CALL `indiamotors`.`Product_Search`('P', 'Vintage Cars'); [return 1 row]
```

	productCode	productName	type	MSRP	Qty_Sale
▶	S18_1342	1937 Lincoln Berline	Vintage Cars	102.74	1111

- b. The seller wishes to view the up and down in the average margin of all products during a specific period. To do that, DBA needs to maintain the required data in a separate table during the change in the MSRP of products. Write all the queries to keep the necessary data. Also, write the test query to show the working of your queries.

AFTER UPDATE ON products FOR EACH ROW  
Store product code, msrp, margin, and update timestamp in a separate table.

- Q:-8. The President of India Motors wants to announce the bonus for the employees on Christmas Day. Write a procedure and test query to generate a comma separate list of emails of India Motors employees [3].

Result Grid		Filter Rows:	Export:	Wrap Cell Content:
	@emailList			
▶	mgerard@classicmodelcars.com;ykato@classicmodelcars.com;mnishi@classicmodelcars.com;tking@cla...			