CC – 215 Database Systems

CS Fall 2020

LAB – 07

Hope you are fine and feeling yourself comfortable and exciting to play with Structured Query Language (SQL) in this lab. You have been taught in the lecture about SQL and query writing. Why not to get all what you have learned with a hands-on experience? So, let's Start!

The objective of this lab is to:

1. DDL
2. DML
3. Views

Course & Lab Instructor: Sir Asif Sohail

Instructions:

- Gossips are not allowed. So be gentle and do what you know. The lab is not to deduct your sessional marks but to prepare you to achieve good marks in quizzes, mids and finals and finally have good grades. So, try to perform all your tasks in time and at your own.
- Teacher assistants are for your help, so be nice with them. Respect them as they are teaching you. Raise your hands if you have some problem and need help from TA.
- Avoid calling them by raising your voice and disturbing the environment of Lab.
- You must revise the content of the past lectures before starting the lab, it will help you resolve most of your general queries and give you the confidence that you can do it.
- Evaluation will be considered final and you cannot debate for the marks. So, focus on performing the tasks when the time is given to you.
- TA may deduct your marks for any kind of ill-discipline or misconduct from your side.
- Evaluation of tasks will be conducted in lab.
- Anyone caught being indulged in the act of plagiarism would be awarded an "F" grade in lab.
- Finally, pray before you start. And, Best of Luck!
- **Max Time: 120 mins.**
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Task 01: [DDL] [04 Marks]

1. Create the following tables for a Sales System. You must give meaningful names to all the constraints.

Table	***Vendor***
Col Name	**Data Type**
V_code	CHAR (10)
V_name	VARCHAR2 (15)
V_addr	VARCHAR2 (20)

Table	***Shipment***	
Col Name	**Data Type**	**Constraints**
s_no	NUMBER (5)	
s_date	Date	Default sysdate
p_no	NUMBER (5)	
V_code	CHAR (10)	
Qty_delivered	NUMBER (4)	

1. Add primary key constraint on *v_code* in vendor.
2. Add not null constraint on *v_name* in vendor.
3. Add primary key constraint on *s_no* in shipment.
4. Add *p_no* foreign key reference product on shipment.
5. Add *v_code* foreign key reference vendor on shipment.
6. Unmark your *auto-commit* option in oracle.

Task 01: [DML] [16 Marks]

1. Insert following data in customer table.

C_no	C_name	City	Cnic	Phone
1001	Syed	Karachi	35202-1234567-8	0306-1234567
1002	Chatha	Hafizabad	35203-1234567-8	0333-1234567
1003	Sultan	Lahore	35204-1234567-8	0345-1234567
1004	Mughal	Lahore	35205-1234567-8	0321-1234567

2. Validate all the integrity constraints of customer table by attempting to insert a row that violates the integrity constraint.
3. Insert your data in the customer table & View the contents of the customer table and **Commit.**
4. Insert following data in tables. (Date format should be same as in table)

Table	**Invoice**		
Inv_no	**Inv_date**	**C_no**	**Payment**
101	Feb 10, 2003	1001	Cash
102	Mar 23, 2003	1003	Cash
103	Jun 12, 2003	1001	Cheque
104	Sep 20, 2003	1004	Credit Card

Table	Product		
p_no	**P_name**	**Cost_price**	**Qty_in_hand**
201	USB	600	25
202	Type-C	200	13
203	Charger	550	18

Table	Invoice_details		
Inv_no	**P_no**	**Qty**	**Sale_price**
101	201	2	800
103	203	3	750
104	202	2	400

Table	**Vendor**	
V_code	**V_name**	**V_addr**
V-100	TCS	Lahore
V-101	Lipord	Karachi

Table	**Shipment**			
S_no	**S_date**	**P_no**	**V_code**	**Qty_delivered**
77	Feb 11, 2003	201	V-100	1
78	Mar 24, 2003	202	V-100	1
79	Jun 17, 2003	203	V-101	1

5. View content of all tables & COMMIT
6. Delete a row from the shipment table where s_no = 79 & view the contents of the shipment table.
7. **ROLLBACK** & view the contents of the shipment table.
8. Increase the cost price by 25% of the current price and qty in hand by 25 of the current amounts of Type-c in the product table.
9. Set the sale price of Type-c by 25% increment of current price in invoice_details.
10. SAVEPOINT S1
11. Attempt to change phone numbers of customer belongs to Lahore by 0901-0676010
12. Delete a row from the invoice_details table using the primary key of the table & view the contents of the product, customer and invoice_details table.
13. ROLLBACK TO S1
14. Alter the foreign key constraint on prod# in the invoice_details table and set it to cascaded deletion.
15. Check the response when an attempt is made to delete a row from the product table that has matching rows in the invoice_details table.

Task 01: [Views] [05 Marks]

1. Create a view sales_invoice consisting of c_no, c_name, inv_no, inv_date, p_no, p_name, cost_price, invoice_details.qty, and total. (total = cost_price* invoice_details.qty).
2. Write select all query using sales_invoice view.
3. Find the names of the most and the least sold products.
4. List all the shipments made by a certain vendor.
5. Create a view All_stock_view consisting of sum of all qty_in_hand as sum_qty_purchased, sum of invoice_details.qty as sum_qty_sold, and stock (=sum_qty_purchased - sum_qty_sold)

Submission Link (MOR): https://forms.gle/i7JdrxkGgzE97fSa6

Submission Link (AFT): https://forms.gle/UzZVrJPauKyUBeQe7

link will expire on 12:30pm.