**CC – 215 Database Systems**

***CS Fall 2020***

**LAB – 06**

*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

**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.**

**Task 01: [DDL] [16 Marks]**

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

|  |  |  |
| --- | --- | --- |
| Table | **Customer** |  |
| **Col Name** | **Data Type** | **Constraints** |
| C\_no | NUMBER (5) | Primary Key |
| C\_name | VARCHAR2 (20) |  |
| City | VARCHAR2 (30) |  |
| Cnic | CHAR (16) | Unique |

|  |  |  |
| --- | --- | --- |
| Table | **Invoice** |  |
| **Col Name** | **Data Type** | **Constraints** |
| Inv\_no | NUMBER (5) |  |
| Inv\_date | VARCHAR2 (20) | Default sysdate |
| C\_no | VARCHAR2 (30) | Foreign key reference customer |
| payment | CHAR (12) | Cash, Cheque, Credit Card |

|  |  |  |
| --- | --- | --- |
| Table | **Product** |  |
| **Col Name** | **Data Type** | **Constraints** |
| p\_no | NUMBER (5) | Primary Key |
| P\_name | VARCHAR2 (50) | Not null |
| price | NUMBER (5) | Above 5 |

|  |  |  |
| --- | --- | --- |
| Table | **Invoice\_details** |  |
| **Col Name** | **Data Type** | **Constraints** |
| Inv\_no | NUMBER (5) | Foreign Key references Invoice |
| P\_no | NUMBER (5) |  |
| Qty | NUMBER (4) | In range 1-500 |
| Sale\_price | NUMBER (5) | Cash, Cheque, Credit Card |

1. View the structure of customer table.
2. Alter table customer and add phone field in it. *VARCHAR2 (10)*
3. Alter table customer and
   1. Apply NOT NULL constraint on city field.
   2. Apply NOT NULL constraint on c\_name field.
   3. Change the size of c\_name field to 25 characters.
4. Alter table invoice and add Primary Key constraint on inv\_no.
5. Alter table invoice\_details and add foreign constraint on p\_no referencing product.
6. Alter table product and change the name of the column price to cost\_price.
7. Alter table product and modify the constraint on cost\_price filed to >=10.
8. View all the constraints of above given table.
9. Disable the NOT NULL constraint on p\_name of product table.
10. Alter table product and enable the NOT NULL constraint on p\_name.
11. Use subquery to create a table customer\_copy using the customer table.
12. Use subquery to create a table All\_in\_one using customer, product, invoice and invoice\_details table.

Column are: c\_name, city, cnic, p\_name, qty and payment.

1. Alter table customer\_copy to make it a read only table.
2. Change the name of customer\_copy table to customer\_backup.
3. Write to generic queries to change name of a table.
4. Drop tables All\_in\_one and customer\_backup.
5. Viva Voice

Submission Link (MOR): <https://forms.gle/Hh96FqKXKyPYsEV5A>

Submission Link (AFT): <https://forms.gle/R3Cn9xmVrYPnVjNs7>

*link will expire on 12:30pm.*