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| **National University of Computer and Emerging Sciences** |
| In Lab 2  “DDL and DML” |
|  |
| Database Systems |

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| Course Instructor | Mr. Uzair Naqvi |
| Lab Instructor (s) | Ms. Yusra Arshad  Ms. Nirma Abbas |
| Section | BDS-4A |
| Semester | Spring 2022 |

Department of Computer Science

FAST-NU, Lahore, Pakistan

**Exercise**

### Task-I

Execute LabEx-0.sql and observe the errors encountered during execution. Write down the reasons of these errors.

### Task-II

Create a database schema that contains following tables.

**Student:**

|  |  |  |  |
| --- | --- | --- | --- |
| **RollNum** | **Name** | **Gender** | **Phone** |
| L164123 | Ali Ahmad | Male | 0333-3333333 |
| L164124 | Rafia Ahmed | Female | 0333-3456789 |
| L164125 | Basit Junaid | Male | 0345-3243567 |

**Attendance:**

|  |  |  |  |
| --- | --- | --- | --- |
| **RollNum** | **Date** | **Status** | **ClassVenue** |
| L164123 | 2-22-2016 | P | 2 |
| L164124 | 2-23-2016 | A | 1 |
| L164125 | 3-4-2016 | P | 2 |

**ClassVenue:**

|  |  |  |  |
| --- | --- | --- | --- |
| **ID** | **Building** | **RoomNum** | **TeacherId** |
| 1 | CS | 2 | 1 |
| 2 | Civil | 7 | 2 |

**Teacher:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Id** | **Name** | **Designation** | **Department** |
| 1 | Sarim Baig | Assistant Prof. | Computer Science |
| 2 | Bismillah Jan | Lecturer | Civil Eng. |
| 3 | Kashif zafar | Professor | Electrical Eng. |

### Task-III

**Q1**: After creating all the tables, add all the rows as shown above. (format for date mm-dd-yy e.g, ‘02-22-2017’)

**Q2**: Identify one PK from each table and add the constraint.

**Q3**: Identify all the FK constraints, and add those constraints, such that:

1. If the Student table or ClassVenue Table or Teacher table is updated the referencing columns should also reflect the changes.
2. Student should not be deleted if the details of his Attendance are present.

**Q4**: Alter table Student by adding new column “warning count”.

**Q5**: Perform the following DML actions on your database, identify whether these operations are **valid or not**, also state how can we make the invalid queries valid? (Your answers should be written in comments along with your queries).

1. Add new row into Student table, values <L162334, Fozan Shahid, Male, 3.2 >
2. Add new row into ClassVenue table, values <3, CS, 5, Ali>

1. Update Teacher table Change “Kashif zafar” name to “Dr. Kashif Zafar”.
2. Delete Student with rollnum “L162334”
3. Delete Student with rollnum “L164123”
4. Delete Attendance with rollnum “L164124”, if his status is absent.

**Q6:**

1. Alter table and Add CNIC in student table.
2. Alter table and drop phone column from student table.
3. Alter table and add unique constraint on teacher name.
4. Alter Student table and allow values only Female and Male for gender.
5. Alter Attendance table and allow A and P as status values only.