CIS 11051 – PRACTICAL FOR DATABASE DESIGN
DEPARTMENT OF ICT
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Lab Sheet: 08
Date:

Title: MySQL Constraints

Aims:

- To work with MySQL table constraints
  - NOT NULL Constraint
  - DEFAULT Constraint
  - UNIQUE Constraint
  - PRIMARY KEY Constraint
  - FOREIGN KEY Constraint
  - CHECK Constraint

Task 1:

1. Create a **database named lab8** and a **table named students**, as shown below.

Column Name	*Data Type*	*Constraints*
student_id	INT	PRIMARY KEY
first_name	VARCHAR(50)	NOT NULL
last_name	VARCHAR(50)	NOT NULL
age	INT	
email	VARCHAR(100)	UNIQUE

2. Insert below dataset to students table

student_id	first_name	last_name	age	email
1	John	Doe	22	john@example.com
2	Jane	Smith	20	jane@example.com
3	Michael	Johnson	23	michael@example.com
4	Emily	Davis	21	emily@example.com
5	David	Martinez	24	david@example.com
6	Sarah	Brown	22	sarah@example.com
7	James	Wilson	25	james@example.com

3. Add a **new column** called **phone_number** (VARCHAR) and set it to **NOT NULL**

4. **Add a column SGPA** with a **default value of 'Pending'**.

5. **Drop** the **phone_number column** from the students table.

6. Modify the **age column** to be **NOT NULL.**

7. Create another a **table named courses**, and insert data into it

Column Name	***Data Type***	***Constraints***
course_id	INT	PRIMARY KEY
Course_name	VARCHAR(100)	NOT NULL

course_id	**course_name**
1	Mathematics
2	Science
3	English
4	History
5	Art
6	Computer Science
7	Physical Education

8. Add the **student_id** column to the **courses table.**

9. Add a **foreign key** constraint in the **courses table** that **references the student_id column in the students table.**

10. Add a **CHECK constraint** to the students table to ensure the age column contains values greater than or equal to 18.

Discussion:

- Composite Key
- CHECK Constraint