Task2 : Student Database Management System

1. Database setup

CREATE DATABASE student\_database;

CREATE TABLE student\_table (

Student\_id INT PRIMARY KEY,

Stu\_name TEXT,

Department TEXT,

Email\_id TEXT,

Phone\_no BIGINT,

Address TEXT,

Date\_of\_birth DATE,

Gender TEXT,

Major TEXT,

GPA DECIMAL(3, 2),

Grade CHAR(1)

);

–2. Data entry

INSERT INTO student\_table

VALUES

(11, 'Akari Suzuki', 'Engineering', 'akari.suzuki@example.com', 1234567800, 'Nara, Japan', '1999-04-18', 'Female', 'Computer Engineering', 3.80, 'A'),

(12, 'Takeru Tanaka', 'Business', 'takeru.tanaka@example.com', 1234567801, 'Kanazawa, Japan', '1997-10-12', 'Male', 'Marketing', 3.70, 'A'),

(13, 'Miku Watanabe', 'Arts', 'miku.watanabe@example.com', 1234567802, 'Okayama, Japan', '1998-01-25', 'Female', 'Graphic Design', 3.90, 'A'),

(14, 'Yuto Nakamura', 'Science', 'yuto.nakamura@example.com', 1234567803, 'Kagoshima, Japan', '1996-08-30', 'Male', 'Chemistry', 3.75, 'A'),

(15, 'Rin Kobayashi', 'Medicine', 'rin.kobayashi@example.com', 1234567804, 'Akita, Japan', '1999-06-05', 'Female', 'Pharmacy', 3.95, 'A'),

(16, 'Sakura Yamada', 'Law', 'sakura.yamada@example.com', 1234567805, 'Naha, Japan', '1997-02-15', 'Female', 'Criminal Law', 3.85, 'A'),

(17, 'Daiki Sato', 'Education', 'daiki.sato@example.com', 1234567806, 'Matsuyama, Japan', '1998-11-20', 'Male', 'Elementary Education', 3.65, 'B'),

(18, 'Airi Ito', 'Social Sciences', 'airi.ito@example.com', 1234567807, 'Shizuoka, Japan', '1996-07-10', 'Female', 'Sociology', 3.55, 'B'),

(19, 'Yuto Saito', 'Information Technology', 'yuto.saito@example.com', 1234567808, 'Oita, Japan', '1999-09-08', 'Male', 'Computer Information Systems', 3.70, 'A'),

(20, 'Riku Takahashi', 'Commerce', 'riku.takahashi@example.com', 1234567809, 'Toyama, Japan', '1997-03-25', 'Male', 'Accounting', 3.75, 'A');

–3. Student information retrieval

SELECT \*

FROM student\_table

ORDER BY Grade DESC;

–4. Query for male students

SELECT \*

FROM student\_table

WHERE Gender = 'Male';

–5. Query for students with GPA less than 5.0

SELECT \*

FROM student\_table

WHERE GPA < 5.0;

–6. Update student email and grade

UPDATE student\_table

SET Email\_id = 'takahashi@example.com', Grade = 'A'

WHERE Student\_id = 20;

–7. Query for students with grade ‘‘B’’

SELECT Stu\_name, Date\_of\_birth

FROM student\_table

WHERE Grade = 'B';

–8. Grouping and calculation

SELECT Department, Gender, AVG(GPA) AS Avg\_GPA

FROM student\_table

GROUP BY Department, Gender;

–9. Table renaming

ALTER TABLE student\_table RENAME TO student\_info;

–10. Retrieve student with highest GPA

SELECT Stu\_name

FROM student\_info

WHERE GPA = (

SELECT MAX(GPA)

FROM student\_info

);