DATABASE USED;

```
mysql> show tables
    -> ;
+-------------------------+
| Tables_in_universitysystem |
+-------------------------+
| complaints              |
| course_registration     |
| courses                 |
| grades                  |
| professors              |
| semesters               |
| students                |
| users                   |
+-------------------------+
8 rows in set (0.01 sec)
```

```
mysql> describe complaints;
+----------------+-----------+------+-----+-------------------+-------------------+
| Field          | Type      | Null | Key | Default           | Extra             |
+----------------+-----------+------+-----+-------------------+-------------------+
| complaint_id   | int       | NO   | PRI | NULL              | auto_increment    |
| student_id     | int       | NO   | MUL | NULL              |                   |
| complaint_text | text      | NO   |     | NULL              |                   |
| complaint_date | timestamp | YES  |     | CURRENT_TIMESTAMP | DEFAULT_GENERATED |
+----------------+-----------+------+-----+-------------------+-------------------+
4 rows in set (0.01 sec)
```

```
mysql> describe courses;
+---------------+--------------+------+-----+---------+----------------+
| Field         | Type         | Null | Key | Default | Extra          |
+---------------+--------------+------+-----+---------+----------------+
| course_id     | int          | NO   | PRI | NULL    | auto_increment |
| course_code   | varchar(20)  | NO   | UNI | NULL    |                |
| course_name   | varchar(100) | NO   |     | NULL    |                |
| credits       | int          | NO   |     | NULL    |                |
| semester_id   | int          | YES  | MUL | NULL    |                |
| prerequisites | varchar(255) | YES  |     | NULL    |                |
+---------------+--------------+------+-----+---------+----------------+
6 rows in set (0.00 sec)
```

```
mysql> describe grades;
+-------------+-------------+------+-----+---------+----------------+
| Field       | Type        | Null | Key | Default | Extra          |
+-------------+-------------+------+-----+---------+----------------+
| grade_id    | int         | NO   | PRI | NULL    | auto_increment |
| student_id  | int         | NO   | MUL | NULL    |                |
| course_code | varchar(20) | NO   | MUL | NULL    |                |
| grade       | varchar(2)  | NO   |     | NULL    |                |
| semester_id | int         | YES  | MUL | NULL    |                |
+-------------+-------------+------+-----+---------+----------------+
5 rows in set (0.00 sec)
```

```
mysql> describe professors;
+---------------+--------------+------+-----+---------+----------------+
| Field         | Type         | Null | Key | Default | Extra          |
+---------------+--------------+------+-----+---------+----------------+
| professor_id  | int          | NO   | PRI | NULL    | auto_increment |
| user_id       | int          | NO   | MUL | NULL    |                |
| department    | varchar(100) | YES  |     | NULL    |                |
| courses       | varchar(255) | YES  |     | NULL    |                |
+---------------+--------------+------+-----+---------+----------------+
4 rows in set (0.00 sec)

mysql> describe semesters;
+---------------+--------------+------+-----+---------+----------------+
| Field         | Type         | Null | Key | Default | Extra          |
+---------------+--------------+------+-----+---------+----------------+
| semester_id   | int          | NO   | PRI | NULL    | auto_increment |
| semester_name | varchar(20)  | NO   |     | NULL    |                |
| start_date    | date         | YES  |     | NULL    |                |
| end_date      | date         | YES  |     | NULL    |                |
+---------------+--------------+------+-----+---------+----------------+
4 rows in set (0.00 sec)

mysql> describe students;
+---------------------+--------------+------+-----+---------+----------------+
| Field               | Type         | Null | Key | Default | Extra          |
+---------------------+--------------+------+-----+---------+----------------+
| student_id          | int          | NO   | PRI | NULL    | auto_increment |
| user_id             | int          | NO   | MUL | NULL    |                |
| enrollment_date     | date         | YES  |     | NULL    |                |
| major               | varchar(100) | YES  |     | NULL    |                |
| current_semester_id | int          | YES  | MUL | NULL    |                |
| course_done         | varchar(255) | YES  |     | NULL    |                |
| contact_details     | varchar(255) | YES  |     | NULL    |                |
+---------------------+--------------+------+-----+---------+----------------+
7 rows in set (0.00 sec)

mysql> describe course_registration;
+-----------------+-------------+------+-----+---------+----------------+
| Field           | Type        | Null | Key | Default | Extra          |
+-----------------+-------------+------+-----+---------+----------------+
| registration_id | int         | NO   | PRI | NULL    | auto_increment |
| student_id      | int         | NO   | MUL | NULL    |                |
| course_code     | varchar(20) | NO   | MUL | NULL    |                |
+-----------------+-------------+------+-----+---------+----------------+
3 rows in set (0.00 sec)
```

```
mysql> describe users;
+-----------+------------------------------------------+------+-----+---------+----------------+
| Field     | Type                                     | Null | Key | Default | Extra          |
+-----------+------------------------------------------+------+-----+---------+----------------+
| user_id   | int                                      | NO   | PRI | NULL    | auto_increment |
| email     | varchar(255)                             | NO   | UNI | NULL    |                |
| password  | varchar(255)                             | NO   |     | NULL    |                |
| user_type | enum('student','professor','administrator') | NO   |     | NULL    |                |
+-----------+------------------------------------------+------+-----+---------+----------------+
4 rows in set (0.00 sec)
```

```
mysql> select * from users;
+---------+----------------------+-------------+-----------+
| user_id | email                | password    | user_type |
+---------+----------------------+-------------+-----------+
|       1 | student1@example.com | password1   | student   |
|       2 | student2@example.com | password2   | student   |
|       3 | student3@example.com | password3   | student   |
|       4 | student4@example.com | password4   | student   |
|       5 | student5@example.com | password5   | student   |
|       6 | student6@example.com | password6   | student   |
|       7 | student7@example.com | password7   | student   |
|       8 | student8@example.com | password8   | student   |
|       9 | student9@example.com | password9   | student   |
|      10 | student10@example.com| password10  | student   |
|      11 | prof1@example.com    | password1   | professor |
|      12 | prof2@example.com    | password2   | professor |
|      13 | prof3@example.com    | password3   | professor |
|      14 | prof4@example.com    | password4   | professor |
|      15 | prof5@example.com    | password5   | professor |
|      16 | prof6@example.com    | password6   | professor |
|      17 | prof7@example.com    | password7   | professor |
|      18 | prof8@example.com    | password8   | professor |
|      19 | prof9@example.com    | password9   | professor |
|      20 | prof10@example.com   | password10  | professor |
|      21 | rahul@student.com    | 12345       | student   |
|      22 | divyanshu@gmail.com  | divyansh123 | student   |
+---------+----------------------+-------------+-----------+
mysql> select * from complaints;
+--------------+------------+-----------------------------------------------------------------+---------------------+
| complaint_id | student_id | complaint_text                                                  | complaint_date      |
+--------------+------------+-----------------------------------------------------------------+---------------------+
|            1 |          1 | The course materials are outdated and need revision.            | 2024-10-16 13:43:40 |
|            2 |          2 | I am facing issues with the online registration system.         | 2024-10-16 13:43:40 |
|            3 |          3 | The professor did not cover all the syllabus in class.          | 2024-10-16 13:43:40 |
|            4 |          4 | There is a lack of communication regarding the exam schedules.  | 2024-10-16 13:43:40 |
|            5 |          5 | The lab facilities are insufficient for the number of students. | 2024-10-16 13:43:40 |
|            6 |          6 | I have not received my grades for the last semester.            | 2024-10-16 13:43:40 |
|            7 |          7 | There is no clarity about the internship opportunities.         | 2024-10-16 13:43:40 |
|            8 |          8 | The classroom environment is not conducive to learning.         | 2024-10-16 13:43:40 |
|            9 |          9 | I would like more information about the elective courses.       | 2024-10-16 13:43:40 |
|           10 |         10 | There are technical issues with the online learning platform.   | 2024-10-16 13:43:40 |
+--------------+------------+-----------------------------------------------------------------+---------------------+
10 rows in set (0.01 sec)
```

```
mysql> select * from courses;
+-----------+-------------+------------------------------+---------+-------------+---------------+
| course_id | course_code | course_name                  | credits | semester_id | prerequisites |
+-----------+-------------+------------------------------+---------+-------------+---------------+
|         1 | CS101       | Intro to Programming         |       3 |           1 | NULL          |
|         2 | MATH101     | Calculus I                   |       3 |           1 | NULL          |
|         3 | PHY101      | Physics I                    |       3 |           1 | NULL          |
|         4 | EE101       | Basic Electrical Engineering |       4 |           1 | NULL          |
|         5 | ME101       | Engineering Mechanics        |       4 |           1 | NULL          |
|         6 | CS102       | Data Structures              |       4 |           2 | CS101         |
|         7 | MATH102     | Calculus II                  |       3 |           2 | MATH101       |
|         8 | PHY102      | Physics II                   |       3 |           2 | PHY101        |
|         9 | EE102       | Circuit Theory               |       4 |           2 | EE101         |
|        10 | ME102       | Thermodynamics               |       4 |           2 | ME101         |
|        11 | CS201       | Algorithms                   |       4 |           3 | CS102         |
|        12 | MATH201     | Linear Algebra               |       3 |           3 | MATH102       |
|        13 | PHY201      | Mechanics                    |       3 |           3 | PHY102        |
|        14 | EE201       | Signals and Systems          |       4 |           3 | EE102         |
|        15 | ME201       | Fluid Mechanics              |       4 |           3 | ME102         |
|        16 | CS202       | Database Systems             |       4 |           4 | CS201         |
|        17 | MATH202     | Differential Equations       |       3 |           4 | MATH201       |
|        18 | PHY202      | Thermodynamics               |       3 |           4 | PHY201        |
|        19 | EE202       | Electromagnetic Fields       |       4 |           4 | EE201         |
|        20 | ME202       | Heat Transfer                |       4 |           4 | ME201         |
|        21 | CS301       | Operating Systems            |       4 |           5 | CS202         |
|        22 | MATH301     | Probability and Statistics   |       3 |           5 | MATH202       |
|        23 | PHY301      | Quantum Mechanics            |       3 |           5 | PHY202        |
|        24 | EE301       | Control Systems              |       4 |           5 | EE202         |
|        25 | ME301       | Manufacturing Processes      |       4 |           5 | ME202         |
|        26 | CS302       | Software Engineering         |       4 |           6 | CS301         |
|        27 | MATH302     | Numerical Methods            |       3 |           6 | MATH301       |
|        28 | PHY302      | Material Science             |       3 |           6 | PHY301        |
|        29 | EE302       | Power Systems                |       4 |           6 | EE301         |
|        30 | ME302       | Machine Design               |       4 |           6 | ME301         |
|        31 | CS401       | Artificial Intelligence      |       4 |           7 | CS302         |
|        32 | MATH401     | Optimization Techniques      |       3 |           7 | MATH302       |
|        33 | PHY401      | Nano Technology              |       3 |           7 | PHY302        |
|        34 | EE401       | Embedded Systems             |       4 |           7 | EE302         |
|        35 | ME401       | Project Management           |       4 |           7 | ME302         |
|        36 | CS402       | Machine Learning             |       4 |           8 | CS401         |
|        37 | MATH402     | Operations Research          |       3 |           8 | MATH401       |
|        38 | PHY402      | Renewable Energy Systems     |       3 |           8 | PHY401        |
|        39 | EE402       | Digital Signal Processing    |       4 |           8 | EE401         |
|        40 | ME402       | Engineering Economics        |       4 |           8 | ME401         |
+-----------+-------------+------------------------------+---------+-------------+---------------+
```

```
mysql> select * from course_registration;
+-----------------+------------+-------------+
| registration_id | student_id | course_code |
+-----------------+------------+-------------+
|               1 |          1 | CS101       |
|               2 |          1 | MATH101     |
|               3 |          1 | PHY101      |
|               4 |          2 | CS102       |
|               5 |          2 | MATH102     |
|               6 |          3 | CS201       |
|               7 |          3 | MATH201     |
|               8 |          4 | CS202       |
|               9 |          4 | MATH202     |
|              10 |          5 | CS301       |
|              11 |          5 | MATH301     |
|              12 |          6 | CS302       |
|              13 |          6 | MATH302     |
|              14 |          7 | CS401       |
|              15 |          7 | MATH401     |
|              16 |          8 | CS402       |
|              17 |          8 | MATH402     |
|              18 |          9 | EE101       |
|              21 |          9 | ME102       |
|              19 |         10 | EE102       |
|              20 |         10 | ME101       |
|              22 |         10 | PHY101      |
+-----------------+------------+-------------+
22 rows in set (0.00 sec)
```

```
mysql> select * from grades;
+----------+------------+-------------+-------+-------------+
| grade_id | student_id | course_code | grade | semester_id |
+----------+------------+-------------+-------+-------------+
|        1 |          1 | CS101       | A     |           1 |
|        2 |          1 | MATH101     | B+    |           1 |
|        3 |          1 | PHY101      | A-    |           1 |
|        4 |          2 | CS102       | B     |           2 |
|        5 |          2 | MATH102     | A     |           2 |
|        6 |          3 | CS201       | C+    |           3 |
|        7 |          3 | MATH201     | B-    |           3 |
|        8 |          4 | CS202       | A+    |           4 |
|        9 |          4 | MATH202     | A     |           4 |
|       10 |          5 | CS301       | C     |           5 |
|       11 |          5 | MATH301     | B+    |           5 |
|       12 |          6 | CS302       | A     |           5 |
|       13 |          6 | MATH302     | B-    |           5 |
|       14 |          7 | CS401       | A-    |           6 |
|       15 |          7 | MATH401     | B     |           6 |
|       16 |          8 | CS402       | C+    |           6 |
|       17 |          8 | MATH402     | B     |           6 |
|       18 |          9 | EE101       | A     |           1 |
|       19 |         10 | EE102       | B+    |           2 |
|       20 |          9 | ME101       | B     |           2 |
|       21 |         10 | ME102       | A-    |           2 |
+----------+------------+-------------+-------+-------------+
21 rows in set (0.00 sec)

mysql> select * from professors;
+--------------+---------+------------------------+---------------+
| professor_id | user_id | department             | courses       |
+--------------+---------+------------------------+---------------+
|            1 |      11 | Computer Science       | CS101,CS102   |
|            2 |      12 | Electrical Engineering | EE101,EE102   |
|            3 |      13 | Mechanical Engineering | ME101,ME102   |
|            4 |      14 | Civil Engineering      | CE101,CE102   |
|            5 |      15 | Chemical Engineering   | CHE101,CHE102 |
|            6 |      16 | Information Technology  | IT101,IT102   |
|            7 |      17 | Computer Science       | CS201,CS202   |
|            8 |      18 | Electrical Engineering | EE201,EE202   |
|            9 |      19 | Mechanical Engineering | ME201,ME202   |
|           10 |      20 | Civil Engineering      | CE201,CE202   |
+--------------+---------+------------------------+---------------+
10 rows in set (0.00 sec)
```

```
mysql> select * from semesters;
+-------------+-----------------+------------+------------+
| semester_id | semester_name   | start_date | end_date   |
+-------------+-----------------+------------+------------+
|           1 | First Semester  | 2024-01-01 | 2024-06-01 |
|           2 | Second Semester | 2024-07-01 | 2024-12-01 |
|           3 | Third Semester  | 2025-01-01 | 2025-06-01 |
|           4 | Fourth Semester | 2025-07-01 | 2025-12-01 |
|           5 | Fifth Semester  | 2026-01-01 | 2026-06-01 |
|           6 | Sixth Semester  | 2026-07-01 | 2026-12-01 |
|           7 | Seventh Semester| 2027-01-01 | 2027-06-01 |
|           8 | Eighth Semester | 2027-07-01 | 2027-12-01 |
+-------------+-----------------+------------+------------+
```

```
mysql> select * from students;
+------------+---------+-----------------+-------------------------+---------------------+------------------------+-----------------+
| student_id | user_id | enrollment_date | major                   | current_semester_id | course_done            | contact_details |
+------------+---------+-----------------+-------------------------+---------------------+------------------------+-----------------+
|          1 |       1 | 2022-08-01      | Computer Science        |                   1 | CS101,MATH101,PHY101   | 1234567890      |
|          2 |       2 | 2022-08-01      | Electrical Engineering  |                   1 | CS101,CS102,MATH101,EE101 | 2345678901   |
|          3 |       3 | 2023-01-10      | Mechanical Engineering  |                   2 | MATH101,PHY101,ME101,EE101 | 3456789012  |
|          4 |       4 | 2023-01-10      | Civil Engineering       |                   2 | CS101,CS102,MATH101,MATH102 | 4567890123 |
|          5 |       5 | 2023-08-15      | Chemical Engineering    |                   3 | MATH101,PHY101,EE101,ME101 | 5678901234  |
|          6 |       6 | 2023-08-15      | Information Technology   |                   3 | CS101,CS102,PHY101,PHY102 | 6789012345   |
|          7 |       7 | 2023-01-20      | Computer Science        |                   4 | CS101,MATH101,EE101,MATH102 | 7890123456 |
|          8 |       8 | 2023-01-20      | Electrical Engineering  |                   4 | CS101,CS102,EE101,ME101 | 8901234567     |
|          9 |       9 | 2023-08-15      | Mechanical Engineering  |                   5 | MATH101,PHY101,CS101,CS102 | 9012345678  |
|         10 |      10 | 2023-08-15      | Civil Engineering       |                   5 | CS101,CS102,PHY101,EE101 | 0123456789    |
|        234 |      22 | 2023-08-16      | Artificial_intelligance |                   3 | CS101,MATH101,EE102    | 8765432109      |
+------------+---------+-----------------+-------------------------+---------------------+------------------------+-----------------+
```