Lab 3: Manage Students

Create a database “Manage Students” include the relations:

**Class**(ClassID, Class, NumberOfStudent)

**Subject**(SubjectID, Subject, Theoretical\_Credits, Practice\_Credits)

**Student**(StudentID, Student\_Name, BirthDay, Gender, ClassID)

**Result**(StudentID**,** SubjectID, Score)

The domain of attributes:

|  |  |
| --- | --- |
| **Attributes** | **Type of** |
| ClassID | char(8) |
| Class | nvarchar(50) |
| NumberOfStudent | tinyint |
| SubjectID | char(6) |
| Subject | nvarchar(50) |
| Theoretical\_Credits, Practice\_Credits | tinyint |
| StudentID | char(5) |
| Student\_Name | nvarchar(50) |
| BirthDay | date |
| Gender | bit |
| Score | decimal(3,1) |

Insert data into the tables with the following data

**Class:**

|  |  |  |
| --- | --- | --- |
| ClassID | Class | NumberOfStudent |
| 18DTH01 | CNTT Khóa 18, Lớp 1 | 50 |
| 18DTH02 | CNTT Khóa 18, Lớp 2 | 45 |
| 19DTH01 | CNTT Khóa 19, Lớp 1 | 55 |
| 19DTH02 | CNTT Khóa 19, Lớp 2 | 50 |
| 19DTH03 | CNTT Khóa 19, Lớp 3 | 40 |

**Subject**:

|  |  |  |  |
| --- | --- | --- | --- |
| SubjectID | Subject | Theoretical\_Credits | Practice\_Credits |
| COS201 | Kỹ thuật lập trình | 2 | 1 |
| COS202 | Lý thuyết đồ thị | 2 | 1 |
| COS203 | CSDLvà quản trị CSDL | 3 | 0 |
| COS204 | Phân tích TK hệ thống | 3 | 0 |
| COS205 | CSDL phân tán | 3 | 0 |

**Student:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| StudentID | Student\_Name | BirthDay | Gender | ClassID |
| 170001 | Lê Hoài An | 12/10/1999 | 1 | 18DTH01 |
| 180002 | Nguyễn Thị Hòa Bình | 20/11/2000 | 1 | 18DTH01 |
| 180003 | Phạm Tường Châu | 07/06/2000 | 0 | 18DTH02 |
| 180004 | Trần Công Danh | 31/01/2000 | 0 | 19DTH01 |

**Result**:

|  |  |  |
| --- | --- | --- |
| StudentID | SubjectID | Score |
| 170001 | COS201 | 10 |
| 170001 | COS202 | 10 |
| 170001 | COS203 | 10 |
| 170001 | COS204 | 10 |
| 170001 | COS205 | 10 |
| 180002 | COS201 | 3.5 |
| 180002 | COS202 | 7 |
| 180003 | COS201 | 8.5 |
| 180003 | COS202 | 2 |
| 180003 | COS203 | 6.5 |
| 180004 | COS201 | 8 |
| 180004 | COS204 | *NULL* |

1. Write An SQL Query to insert a new record to table Student with following data:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 190001 | Đào Thị Tuyết Hoa | 08/03/2001 | 0 | 19DTH02 |

1. Write An SQL Query to change subject of 'Lý Thuyết Đồ Thị' to ‘Toán rời rạc’.
2. Write An SQL Query to print subjects without practice.
3. Write An SQL Query to print subjects with both theory and practice.
4. Write An SQL Query to print subjects with the first letter is 'C'.
5. Write An SQL Query to print student\_name that contains the word ‘Thi’.
6. Write An SQL Query to print information of two classes which have the largest students.
7. Write An SQL Query to print a list of students: StudentID, Student\_Name, BirthDay, Gender (with Gender is ‘male’ or ‘female’).
8. Write An SQL Query to print students whose age is ≥ 20: Student\_Name, BirthDay, Age.
9. Write An SQL Query to print subjects that students already took a test but donot have score
10. Write An SQL Query to print student name and subject code that the student took test with score over 7.
11. Write An SQL Query to print subjects and the number of students who took it and got the score.
12. Write An SQL Query to print student's name and average of score.
13. Write An SQL Query to print student's name who has the highest average score.
14. Write An SQL Query to print Student's name who hasn't got the score of ‘Toán rời rạc’.
15. Write An SQL Query to indicate the total of students and the total of female students.
16. Write An SQL Query to print the list of students who has failed at least one subject.
17. Write An SQL Query to print the list of students who has the highest score on ‘Kỹ thuật lập trình’ in each class.
18. Write An SQL Query to print a list of students who has the highest scores by each subject in each class.
19. Write An SQL Query to print the studentID, Student's name who does not yet has a score for any subject.
20. Write An SQL Query to print the list of students who has all scores is 10.
21. Write An SQL Query to count the number of male students and female students by class.
22. Write An SQL Query to print the names of students who have taken all subjects but not fail any.
23. Write An SQL Query to print subjects that have been tested for all students.