**StudentID:** HE172481 **StudentName:** Phan Tiến Mạnh **DateOfBirth** 22/03/2003

**Table 1: STUDENTS.** The table has the structure and some sample data as the following.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **ID** | **Name** | **Age** | **Gender** | **GPA** | **DepID** |
| S0019 | John Smith | 20 | Male | 8.6 | SE |
| S0010 | Jane Doe | 19 | Female | 5.4 | AI |
| S9393 | Mark Johnson | 20 | Male | 7.0 | SE |
| S1012 | Sara Williams | 21 | Female | 9.0 | IA |
| S0012 | Tom Wilson | 20 | Male | 9.0 | SE |

**Table 2: DEPARTMENTS.** The table has the structure and some sample data as the following.

|  |  |  |  |
| --- | --- | --- | --- |
| **ID** | **Name** | **NumberOfStudents** | **Place** |
| SE | Software Engineering | 50 | Alpha |
| AI | Artificial Intelligence | 130 | Beta |
| IA | Information Assurance | 69 | Delta |
| BA | Business Administration | 230 | Delta |

**Write SQL statements to perform the following tasks.**

1. Select the name and gender of all female students

**SELECT Name, Gender FROM STUDENTS WHERE Gender = ‘Female’;**

1. Calculate the average GPA of all male students

**SELECT AVG(GPA) FROM STUDENTS WHERE Gender = ‘Male’;**

1. Select the name and age of all students who are 21 years old

**SELECT Name, Age FROM STUDENTS WHERE Age = ‘21’;**

1. Select the name and gender of all students whose name starts with 'J'

**SELECT Name, Gender FROM STUDENTS WHERE Name LIKE “J%”;**

1. Select the student with the highest GPA

**SELECT \* FROM STUDENTS ORDER BY GPA DESC LIMIT 1;**

1. Count the number of students of all departments.

**SELECT COUNT(NumberOfStudents) FROM DEPARTMENTS;**

1. Count the number of female students

**SELECT COUNT(Gender) FROM STUDENTS WHERE Gender = ‘Female’;**

1. Calculate the total number of students in two departments SE and AI

**SELECT COUNT(\*) FROM DEPARTMENTS WHERE ID IN (‘SE’,’AI’);**

1. Select ID, name, and gender of all students studying in the Delta building
2. Select the name and gender of all students of the SE department whose name starts with 'J'

**SELECT Name, Gender FROM STUDENTS WHERE DepID = ‘SE’ AND Name LIKE “J%”;**

1. Select top 5 students of the AI department with the highest GPA, ordered by the student's GPA in descending order.
2. Select the list of female students of the SE department and sort them in descending order of GPA.

**SELECT \* FROM STUDENTS WHERE DepID = ‘SE’ AND Gender =’Female’ ORDER BY GPA DESC;**

1. Add a new student with the following information: ID: ‘S0005’, Name: ‘Alice Brown’, Age: 20, Gender: ‘Female’, GPA: 8.4, DepID: ‘SE’.

**INSERT INTO STUDENTS(ID, Name, Age, Gender, GPA, DepID) VALUES (‘S0005’, ‘Alice Brown’, 20, ‘Female’, 8.4, ‘SE’);**

1. Update the GPA of the student with ID=’S1012’ and name=’Sara Williams’ to 9.5.

**UPDATE STUDENTS SET GPA = 9.5 WHERE ID=’S1012’ AND Name=’Sara Williams’;**

1. Delete the student with ID=‘ S9393’

**DELETE FROM STUDENTS WHERE ID = ‘S9393’;**