

Project 2 Queries

1. Find the total number of students and average course points by feeder institutions.

```
SELECT Feeder.feeder_id, Feeder.school_name, COUNT(DISTINCT
Student_information.student_id) AS num_students, AVG(Grades.course_points) AS
avg_course_points
FROM Feeder
LEFT JOIN Student_information ON Feeder.feeder_id = Student_information.feeder_id
LEFT JOIN Grades ON Student_information.student_id = Grades.student_id
WHERE Student_information.student_id IS NOT NULL
GROUP BY Feeder.feeder_id, Feeder.school_name
ORDER BY avg_course_points DESC;
```

2. Find the total number of students and average course points by gender.

```
SELECT Student_information.gender, COUNT(DISTINCT Student_information.student_id) AS
num_students, AVG(Grades.course_points) AS avg_course_points
FROM Student_information
LEFT JOIN Grades ON Student_information.student_id = Grades.student_id
GROUP BY Student_information.gender;
```

3. Find the total number of students and average course points by ethnicity.

```
SELECT Student_information.ethnicity, COUNT(DISTINCT Student_information.student_id) AS
num_students, AVG(Grades.course_points) AS avg_course_points
FROM Student_information
LEFT JOIN Grades ON Student_information.student_id = Grades.student_id
GROUP BY Student_information.ethnicity
ORDER BY avg_course_points DESC;
```

4. Find the total number of students and average course points by city.

```
SELECT Student_information.city, COUNT(DISTINCT Student_information.student_id) AS
num_students, AVG(Grades.course_points) AS avg_course_points
FROM Student_information
LEFT JOIN Grades ON Student_information.student_id = Grades.student_id
GROUP BY Student_information.city
ORDER BY avg_course_points DESC;
```

5. Find the total number of students and average course points by district.

```
SELECT Student_information.district, COUNT(DISTINCT Student_information.student_id) AS
num_students, AVG(DISTINCT Grades.course_points) AS avg_course_points
FROM Student_information
LEFT JOIN Grades ON Student_information.student_id = Grades.student_id
```

```
GROUP BY Student_information.district
ORDER BY avg_course_points DESC;
```

6. Find the total number and percentage of students by program status.

```
SELECT Student_information.program_status, COUNT(DISTINCT Student_information.student_id) AS
num_students,
       ROUND(COUNT(Student_information.student_id)*100.0/SUM(COUNT(Student_information.student_id))
OVER (), 2) AS percent_students
FROM Student_information
GROUP BY Student_information.program_status
ORDER BY percent_students DESC;
```

7. Find the letter grade breakdown (how many A, A-,B,B+,...)for each of the following courses:

a. Fundamentals of Computing

```
SELECT Grades.course_grade, COUNT(*) AS num_grades
FROM Grades
JOIN Courses ON Grades.course_id = Courses.course_id
WHERE Courses.course_code = 'CMPS1134'
GROUP BY Grades.course_grade;
```

b. Principles of Programming I

```
SELECT Grades.course_grade, COUNT(*) AS num_grades
FROM Grades
JOIN Courses ON Grades.course_id = Courses.course_id
WHERE Courses.course_code = 'CMPS1131'
GROUP BY Grades.course_grade;
```

c. Algebra

```
SELECT Grades.course_grade, COUNT(*) AS num_grades
FROM Grades
JOIN Courses ON Grades.course_id = Courses.course_id
WHERE Courses.course_title = 'ALGEBRA'
GROUP BY Grades.course_grade;
```

d. Trigonometry

```
SELECT Grades.course_grade, COUNT(*) AS num_grades
FROM Grades
JOIN Courses ON Grades.course_id = Courses.course_id
WHERE Courses.course_title = 'TRIGONOMETRY'
GROUP BY Grades.course_grade;
```

e. College English I

```
SELECT Grades.course_grade, COUNT(*) AS num_grades
FROM Grades
JOIN Courses ON Grades.course_id = Courses.course_id
WHERE Courses.course_title = 'COLLEGE ENGLISH I'
GROUP BY Grades.course_grade;
```

My 10 Interesting queries

1. Retrieve the number of students enrolled in each feeder school.

```
SELECT Feeder.school_name, COUNT(DISTINCT Student_information.student_id)
AS num_students
FROM Feeder
JOIN Student_information ON Feeder.feeder_id =
Student_information.feeder_id
GROUP BY Feeder.school_name
ORDER BY num_students DESC;
```

2. Retrieve the number of students who dropped out of each feeder school in descending order.

```
SELECT Feeder.school_name, COUNT(DISTINCT
Student_information.student_id) AS num_dropouts
FROM Feeder
JOIN Student_information ON Feeder.feeder_id =
Student_information.feeder_id
WHERE Student_information.program_status = 'Dropped'
GROUP BY Feeder.school_name
ORDER BY num_dropouts DESC;
```

3. Shows the average grade point for each course:

```
SELECT Courses.course_title, AVG(Grades.course_points) AS avg_points
FROM Grades
JOIN Courses ON Grades.course_id = Courses.course_id
GROUP BY Courses.course_title
```

```
HAVING AVG(Grades.course_points) IS NOT NULL  
ORDER BY avg_points DESC;
```

4. Show the average grade point for each feeder school:

```
SELECT Feeder.school_name, AVG(Grades.course_points) AS avg_points  
FROM Feeder  
JOIN Student_information ON Feeder.feeder_id =  
Student_information.feeder_id  
JOIN Grades ON Student_information.student_id = Grades.student_id  
GROUP BY Feeder.school_name  
ORDER BY avg_points DESC;
```

5. Show the average grade point for each district from best to lowest;

```
SELECT Student_information.district, AVG(Grades.course_points) AS  
avg_points  
FROM Student_information  
JOIN Grades ON Student_information.student_id = Grades.student_id  
GROUP BY Student_information.district  
ORDER BY AVG(Grades.course_points) DESC;
```

6. Show the number of dropouts from each urban/rural category:

```
SELECT Feeder.urban_rural, COUNT(DISTINCT  
Student_information.student_id) AS num_dropouts  
FROM Feeder  
JOIN Student_information ON Feeder.feeder_id =  
Student_information.feeder_id  
WHERE Student_information.program_status = 'Dropped'  
GROUP BY Feeder.urban_rural  
ORDER BY num_dropouts DESC;
```

7. The average course points for each district and gender, ordered by district in ascending order:

```
SELECT Student_information.district, Student_information.gender,  
AVG(Grades.course_points) AS avg_grade  
FROM Student_information  
JOIN Grades ON Student_information.student_id = Grades.student_id  
GROUP BY Student_information.district, Student_information.gender  
ORDER BY Student_information.district ASC;
```

8. Show the number of students who graduated from each district.

```
SELECT Student_information.district,  
COUNT(Student_information.student_id) AS num_graduates  
FROM Student_information  
WHERE Student_information.program_status = 'Graduated'  
GROUP BY Student_information.district  
ORDER BY num_graduates DESC;
```

9. The number of students by gender:

```
SELECT Student_information.gender, COUNT(DISTINCT  
Student_information.student_id) AS num_students  
FROM Student_information  
GROUP BY Student_information.gender  
ORDER BY num_students DESC;
```

10. shows the number of students in each program status for each feeder school, ordered by feeder school name

```
SELECT Feeder.school_name, Student_information.program_status,  
COUNT(Student_information.student_id) AS num_students  
FROM Feeder  
JOIN Student_information ON Feeder.feeder_id =  
Student_information.feeder_id  
GROUP BY Feeder.school_name, Student_information.program_status  
ORDER BY Feeder.school_name ASC, num_students DESC;
```

