1. List all professors in the database.
2. Show all departments in the database.
3. List all students’ names (firstname and lastname) in the database.
4. List all students' names (firstname and lastname). The resulting table must have two columns names "Firstname" and "Lastname" respectively.
5. List all unique first names of the students.
6. Show all course codes and their credits in this college.
7. List all class codes, course code, and the classroom number provided in this college.
8. List (top) 5 classroom numbers and the courses (code) teached in the classrooms
9. List all professors' employee numbers and their teaching courses (remove some duplicates if applicable)
10. List (top) 10 professors’ names (first name and last name) and their date of birth. The resulting table must have the following columns names "Firstname", "Lastname", “DoB” respectively.
11. List (top) 10 professors’ names (first name and last name) and their year of birth. The resulting table must have the following columns names "Firstname", "Lastname", “Birthyear” respectively. Hint: Use YEAR(column\_name) to extract the year from the column type datetime.
12. List (top) 10 professors’ names (first name and last name) and their age. The resulting table must have the following columns names "Firstname", "Lastname", “Age” respectively. Hint: Use YEAR(column\_name) to extract the year and then compute their age (up to this year).
13. Show all course information sorted by course credits ascendingly.
14. Show the top three students  (firstname, lastname, and GPA) with the highest GPA.
15. Show the students (firstname, lastname, and GPA) who earn the First-class honors, i.e. GPA of 3.50 or higher.
16. List the students (firstname, lastname, and GPA) who earn the Second-class honors, i.e. GPA of 3.25 and less than 3.5.
17. List the students (firstname, lastname, and GPA) who are on Probation Type I (GPA of 1.50 or higher but less than 1.80).
18. List the students (firstname, lastname, and GPA) who are on Probation Type II (GPA of 1.80 or higher but less than 2.00).
19. Show the list of students (firstname, lastname) who do not have their GPA reported
20. Show the list of student (firstname, lastname) who were born in the '70s, i.e., their birthday is between January 1, 1970, and ended on December 31, 1979.
21. List all "CIS" students whose first name begins with "A".
22. List all "Intro." course information provided in the college.
23. List all the Section 2 classes (class code, course code, and class time) that are taught every Monday, Wednesday, and Friday. Hint: Look for "MWF" in the class time.
24. List all courses (course code, course name, and department code) of the "CIS", "MATH", and "ENG" departments and alsosort the result their department code alphabetically
25. List all the classes (class code, course code, and professor employee number) which are taught by professors whose employee numbers are 104, 105, 106, or 155. The result must be sorted by professor numbers.
26. Create an email list of all "ACCT" professors from their first names, followed by ".", and the first three letters of their last names along with their employee number as shown in the following output
27. List all students who were born in November. Sort the result by department code
28. List all students who were born on Thursday. Sort the result by department code.  
    Hint: Use DAYOFWEEK() to return the weekday index for a date (Sunday=1, Monday=2, ... , Saturday=7)
29. List all professor names (firstname and last name) who are older than 75 (compute their age at 2020). Sort the result by the highest age to the lowest one.alter
30. Find the highest age of students in class 1.
31. Find the average GPA (shown in two decimal places) of students in class 2
32. Find the average GPA (shown in two decimal places) of students each class (sorted by class).
33. Find the average GPA (shown in two decimal places) of students in each department (sorted by department code).
34. Find the number of students in each class
35. Find the number of students in each department.
36. Find the list of departments (department codes) and the total numbers of professors with at least 2 professors. Sort the result by the total number of professors ascendingly
37. Find the list of departments (department codes) that have more than one student with the GPA at least 3.00
38. List the top 8 professors and their departments information (professor first name, last name, department code, department name, and department address)
39. List all "CIS" students (student firstname and lastname) who got grade "A" in any classes. Show the student first name, last name, and class code, sorted by their first names. Hint: you can look for the grade result from "Enrollment" table
40. List all "CIS" students (student firstname and lastname) and the number of times they received grade "A". Show the student first name, last name, and the total number of “A” grade, sorted by their first names.
41. Show all advisors (professor first names, last names, and their total numbers of advisees), who have the total number of advisees at least 3 students.
42. Hint: Advisors are the professors who give advice to their advisees (students) and emp\_num in the Student table indicates the student's advisor.
43. Show all "Intro" class schedule for Section 1 (class code, course code, course name and class time) offered by "CIS" department.
44. List all departments (department code and department name), their total number of students, their total number of professors, and the ratio of students per professor (displayed in 2 decimal places). Sort the result by department code. Hint: use DISTINCT to count only unique students or professors.
45. List all departments and their name of the professor who is the Head of the Department. The result must include department code, department name, and the full name of the Head of the Department, sorted by the department code Hint: emp\_num in the Department table indicates the professor number who is the Head of the department.
46. List all students who enrolled at least 6 classes or at least 18 credits. The result should include student number, first name, last name, the total numbers of enrolled classes, and the total numbers of credits, sorted by the student numbers

-- 1

SELECT \* FROM professor;

-- 2

SELECT \* FROM department;

-- 3

SELECT STU\_FNAME, STU\_LNAME

FROM student;

-- 4

SELECT STU\_FNAME AS Firstname, STU\_LNAME AS Lastname

FROM student;

-- 5

SELECT DISTINCT STU\_FNAME

FROM student;

-- 6

SELECT COURSE\_CODE, CRS\_CREDIT

FROM course;

-- 7

SELECT CLASS\_CODE, COURSE\_CODE, CLASS\_ROOM

FROM class;

-- 8

SELECT distinct CLASS\_ROOM, COURSE\_CODE

FROM class

LIMIT 5;

-- 9

SELECT distinct EMP\_NUM, COURSE\_CODE

FROM class;

-- 10

SELECT EMP\_FNAME as Firstname, EMP\_LNAME as Lastname, EMP\_DOB as DOB

FROM professor

LIMIT 10;

-- 11

SELECT EMP\_FNAME as Firstname, EMP\_LNAME as Lastname, YEAR(EMP\_DOB) as Birthyear

FROM professor

LIMIT 10;

-- 12

SELECT EMP\_FNAME as Firstname, EMP\_LNAME as Lastname, 2020-YEAR(EMP\_DOB) as Age

FROM professor

LIMIT 10;

-- 13

SELECT \* FROM course

ORDER BY CRS\_CREDIT ASC;

-- 14

SELECT STU\_FNAME, STU\_LNAME, STU\_GPA

FROM student

ORDER BY STU\_GPA DESC

LIMIT 3;

-- 15

SELECT STU\_FNAME, STU\_LNAME, STU\_GPA

FROM student

WHERE STU\_GPA >= 3.50;

-- 16

SELECT STU\_FNAME, STU\_LNAME, STU\_GPA

FROM student

WHERE STU\_GPA BETWEEN 3.25 AND 3.50;

-- 17

SELECT STU\_FNAME, STU\_LNAME, STU\_GPA

FROM student

WHERE STU\_GPA >= 1.50 AND STU\_GPA < 1.80;

-- 18

SELECT STU\_FNAME, STU\_LNAME, STU\_GPA

FROM student

WHERE STU\_GPA >= 1.80 AND STU\_GPA < 2.00;

-- 19

SELECT STU\_FNAME, STU\_LNAME

FROM student

WHERE STU\_GPA is null;

-- 20

SELECT STU\_FNAME, STU\_LNAME

FROM student

WHERE YEAR(STU\_DOB) >= 1970 AND YEAR(STU\_DOB) <= 1979;

-- 21

SELECT \* FROM student

WHERE DEPT\_CODE = 'CIS' and STU\_FNAME like "A%";

-- 22

SELECT \* FROM course

WHERE COURSE\_NAME like '%intro%';

-- 23

SELECT CLASS\_CODE, COURSE\_CODE, CLASS\_TIME

FROM class

WHERE CLASS\_SECTION = 2 AND CLASS\_TIME like '%MWF%';

-- 24

SELECT COURSE\_CODE, COURSE\_NAME, DEPT\_CODE

FROM course

WHERE DEPT\_CODE like '%CIS%' or DEPT\_CODE like '%ENG%' or DEPT\_CODE like '%MATH%';

-- 25

SELECT CLASS\_CODE, COURSE\_CODE, EMP\_NUM

FROM class

WHERE EMP\_NUM like '%104%' or EMP\_NUM like '%105%' or EMP\_NUM like '%106%' or EMP\_NUM like '%155%';

-- 26

SELECT EMP\_NUM, LOWER(CONCAT(EMP\_FNAME,'.', LEFT(EMP\_LNAME, 3), '@tinycollege.edu')) as email

FROM professor

WHERE DEPT\_CODE = 'ACCT';

SELECT STU\_DOB FROM student;

-- 27

SELECT \* FROM student

WHERE month(STU\_DOB) = 11

ORDER BY DEPT\_CODE ASC;

-- 28

SELECT \* FROM student

WHERE dayofweek(STU\_DOB) = 5

ORDER BY DEPT\_CODE ASC;

-- 29

SELECT EMP\_FNAME, EMP\_LNAME, 2020-YEAR(EMP\_DOB) as age

FROM professor

WHERE 2020-YEAR(EMP\_DOB) >75

ORDER BY 2020-YEAR(EMP\_DOB) DESC;

-- 30

SELECT max(2020-YEAR(STU\_DOB)) as age

FROM student;

-- 31

SELECT round(avg(STU\_GPA), 2) as AvgGPA

FROM student

WHERE STU\_CLASS = 2;

-- 32

SELECT STU\_CLASS, round(avg(STU\_GPA), 2) as avgGPA

FROM student

GROUP BY STU\_CLASS

ORDER BY STU\_CLASS ASC;

-- 33

SELECT DEPT\_CODE, round(avg(STU\_GPA), 2) as avgGPA

FROM student

group by DEPT\_CODE

ORDER BY DEPT\_CODE;

-- 34

SELECT STU\_CLASS, count(STU\_NUM) AS num\_stu

FROM student

GROUP BY STU\_CLASS

ORDER BY STU\_CLASS;

-- 35

SELECT DEPT\_CODE, count(STU\_NUM) as num\_stu

from student

group by DEPT\_CODE

ORDER by DEPT\_CODE ASC;

-- 36

SELECT DEPT\_CODE, count(EMP\_NUM) as num\_prof

from professor

group by DEPT\_CODE

having count(EMP\_NUM) >=2

order by count(EMP\_NUM) ASC;

-- 37

SELECT DEPT\_CODE, count(STU\_NUM) as num\_stu

from student

WHERE STU\_GPA >= 3.00

group by DEPT\_CODE

having count(STU\_NUM) > 1;

-- 38

SELECT EMP\_FNAME, EMP\_LNAME, p.DEPT\_CODE, DEPT\_NAME, DEPT\_ADDRESS

from professor p

JOIN department d on p.DEPT\_CODE = d.DEPT\_CODE

LIMIT 8;

-- 39

SELECT STU\_FNAME, STU\_LNAME, CLASS\_CODE

from student s

JOIN enroll e on s.STU\_NUM = e.STU\_NUM

WHERE DEPT\_CODE = 'CIS' and GRADE = 'A'

ORDER BY STU\_FNAME ASC;

-- 40

SELECT STU\_FNAME, STU\_LNAME, count(GRADE) as num\_gradeA

from student s

JOIN enroll e on s.STU\_NUM = e.STU\_NUM

WHERE DEPT\_CODE = 'CIS' and GRADE = 'A'

Group by STU\_FNAME

order by STU\_FNAME ASC;

-- 41

SELECT EMP\_FNAME, EMP\_LNAME, count(s.EMP\_NUM) as num\_advisee

from professor p

JOIN student s on p.EMP\_NUM = s.EMP\_NUM

GROUP BY EMP\_FNAME

having num\_advisee > 3

order by EMP\_FNAME ASC;

-- 42

SELECT CLASS\_CODE, cl.COURSE\_CODE, COURSE\_NAME, CLASS\_TIME

from class cl

JOIN course c on cl.COURSE\_CODE = c.COURSE\_CODE

WHERE c.DEPT\_CODE = 'CIS' and COURSE\_NAME like 'Intro%' and CLASS\_SECTION = '1';

-- 43

SELECT d.DEPT\_CODE, DEPT\_NAME, count(distinct(p.EMP\_NUM)) as num\_prof, count(distinct(STU\_NUM)) as num\_stu, round(count(distinct(STU\_NUM))/count(distinct(p.EMP\_NUM)),2) as stuprof\_ratio

from department d

JOIN professor p on d.DEPT\_CODE = p.DEPT\_CODE

JOIN student s on d.DEPT\_CODE = s.DEPT\_CODE

group by d.DEPT\_CODE;

-- 44

SELECT d.DEPT\_CODE, DEPT\_NAME, CONCAT(p.EMP\_FNAME, ' ', p.EMP\_LNAME) as head\_dept

from department d

JOIN professor p on d.EMP\_NUM = p.EMP\_NUM

group by d.DEPT\_CODE

order by d.DEPT\_CODE asc;

-- 45

SELECT s.STU\_NUM, STU\_FNAME, STU\_LNAME, count(STU\_CLASS) as total\_class, sum(CREDIT) as total\_credit

from student s

join enroll e on s.STU\_NUM = e.STU\_NUM

group by s.STU\_NUM

having count(STU\_CLASS)>=6 or count(CREDIT)>=18

order by s.STU\_NUM ASC;