1. Add gender column for the student table. It holds two value (male or female).

```
MySQL localhost:3306 ssl iti SQL > ALTER TABLE student ADD gender enum ("Male","Female");
Query OK, 0 rows affected (0.0181 sec)

Records: 0  Duplicates: 0  Warnings: 0
```

2. Add birth date column for the student table.

```
MySQL localhost:3306 ssl iti SQL > ALTER TABLE student ADD  BDate  date;
```

3. Delete the name column and replace it with two colums first name and last name.

```
Fetching global names, object names from `iti` for auto-completion... Press ^C to stop.
MySQL localhost:3306 ssl iti SQL > ALTER TABLE student DROP COLUMN name;
Query OK, 0 rows affected (0.0724 sec)

Records: 0  Duplicates: 0  Warnings: 0
MySQL localhost:3306 ssl iti SQL >
MySQL localhost:3306 ssl iti SQL > ALTER TABLE student add firstname varchar(255);
Query OK, 0 rows affected (0.0231 sec)

Records: 0  Duplicates: 0  Warnings: 0
MySQL localhost:3306 ssl iti SQL > ALTER TABLE student add lastname varchar(255);
Query OK, 0 rows affected (0.0226 sec)
```

4. Delete the address and email column and replace it with contact info (Address, email)
as object Data type.

```
MySQL localhost:3306 ssl iti SQL > alter table student drop email;
Query OK, 0 rows affected (0.0529 sec)

Records: 0  Duplicates: 0  Warnings: 0
MySQL localhost:3306 ssl iti SQL > alter table student drop adress;
Query OK, 0 rows affected (0.0802 sec)

Records: 0  Duplicates: 0  Warnings: 0
MySQL localhost:3306 ssl iti SQL > alter table student add column contact_info varchar(255);
Query OK, 0 rows affected (0.0153 sec)
```

5. Add foreign key constrains in Your Tables with options on delete cascaded .

```
MySQL localhost:3306 ssl iti SQL > alter table study_table add constraint id foreign key (id) references student(id) on delete
                                -> cascade;
ERROR: 1826 (HY000): Duplicate foreign key constraint name 'id'
MySQL localhost:3306 ssl iti SQL > alter table study_table add constraint id_sub foreign key (id_sub) references subject(id_sub) on delete
                                -> cascade;
```

6. Update your information by changing data for (gender, birthdate, first name, last name, contact info).

```
MySQL localhost:3306 ssl iti SQL > update student set firstname="nnn1", lastname ="khaled" ,gender="Female", BDate="1999-12-29", contact_info="nnnnnnnnn@gmail"  where id=1;
Query OK, 1 row affected (0.0068 sec)

Rows matched: 1  Changed: 1  Warnings: 0
MySQL localhost:3306 ssl iti SQL >
```

7. Display all students' information.

```
MySQL localhost:3306 ssl iti SQL > SELECT * FROM student ;
+----+------------+-----------+----------+--------+-----------------+
| id | BDate      | firstname | lastname | gender | contact_info    |
+----+------------+-----------+----------+--------+-----------------+
|  1 | 1999-12-29 | nnn1      | khaled   | Female | nnnnnnnnn@gmail |
|  2 | 2005-09-23 | amr       | khaled   | Male   | aaaaaaa@gmail   |
|  3 | 1997-09-06 | mohamed   | khaled   | Male   | mmmmmmm@gamil   |
|  4 | 2000-10-05 | ahmed     | mohamed  | Male   | aaaaaa@gmail    |
|  5 | NULL       | NULL      | NULL     | NULL   | NULL            |
|  6 | NULL       | NULL      | NULL     | NULL   | NULL            |
|  7 | NULL       | NULL      | NULL     | NULL   | NULL            |
+----+------------+-----------+----------+--------+-----------------+
```

8. Display male students only.

```
MySQL localhost:3306 ssl iti SQL > SELECT * FROM student WHERE gender='Male';
+----+------------+-----------+----------+--------+---------------+
| id | BDate      | firstname | lastname | gender | contact_info  |
+----+------------+-----------+----------+--------+---------------+
|  2 | 2005-09-23 | amr       | khaled   | Male   | aaaaaaa@gmail |
|  3 | 1997-09-06 | mohamed   | khaled   | Male   | mmmmmmm@gamil |
|  4 | 2000-10-05 | ahmed     | mohamed  | Male   | aaaaaa@gmail  |
+----+------------+-----------+----------+--------+---------------+
3 rows in set (0.0021 sec)
```

9. Display the number of female students.

```
MySQL localhost:3306 ssl iti SQL > SELECT count(*) FROM student where gender="Female";
+----------+
| count(*) |
+----------+
|        1 |
+----------+
1 row in set (0.0003 sec)
```

10. Display the students who are born before 1992-10-01.

```
MySQL localhost:3306 ssl iti SQL > select count(*) from student where BDate <"1992-10-1";
+----------+
| count(*) |
+----------+
|        0 |
+----------+
1 row in set (0.0009 sec)
```

11. Display male students who are born before 1991-10-01.

```
MySQL localhost:3306 ssl iti SQL > select count(*) from student where BDate <"1992-10-1" and gender="Male";
+----------+
| count(*) |
+----------+
|        0 |
+----------+
1 row in set (0.0004 sec)
```

12. Display subjects and their max score sorted by max score.

```
MySQL localhost:3306 ssl iti SQL > SELECT name_sub , maxscore FROM subject ORDER BY maxscore;
+----------+----------+
| name_sub | maxscore |
+----------+----------+
| c        | 100      |
| js       | 80       |
| c#       | 85       |
| c++      | 90       |
+----------+----------+
4 rows in set (0.0003 sec)
```

13. Display the subject with highest max score

```
MySQL localhost:3306 ssl iti SQL > select  name_sub from subject where maxscore=(select max(maxscore)from subject);
+----------+
| name_sub |
+----------+
| c++      |
+----------+
```

14. Display students' names that begin with A.

```
MySQL localhost:3306 ssl iti SQL > SELECT * FROM student where firstname LIKE 'A%';
+----+------------+-----------+----------+--------+---------------+
| id | BDate      | firstname | lastname | gender | contact_info  |
+----+------------+-----------+----------+--------+---------------+
|  2 | 2005-09-23 | amr       | khaled   | Male   | aaaaaaa@gmail |
|  4 | 2000-10-05 | ahmed     | mohamed  | Male   | aaaaaa@gmail  |
+----+------------+-----------+----------+--------+---------------+
2 rows in set (0.0004 sec)
MySQL localhost:3306 ssl iti SQL >
```

15. Display the number of students' their name is "Mohammed"

```
MySQL localhost:3306 ssl iti SQL > SELECT count(*) FROM student WHERE firstname ='Mohammed';
+----------+
| count(*) |
+----------+
|        0 |
+----------+
1 row in set (0.0003 sec)
MySQL localhost:3306 ssl iti SQL >
```

16. Display the number of males and females.

```
MySQL localhost:3306 ssl iti SQL > select gender,count(gender) from student where gender="Male" union
                                -> select gender,count(gender) from student where gender="Female";
+--------+---------------+
| gender | count(gender) |
+--------+---------------+
| Male   |             3 |
| Female |             1 |
+--------+---------------+
2 rows in set (0.0022 sec)
```

17. Display the repeated first names and their counts if higher than 2.

```
2 rows in set (0.0022 sec)
MySQL localhost:3306 ssl iti SQL > select firstname from student group by firstname having count(firstname)>=2;
Empty set (0.0004 sec)
```

18. Display students' names, their score and subject name.

```
MySQL localhost:3306 ssl iti SQL > select firstname,lastname ,maxscore from student ,subject, study_table where student.id=study_table.id and subject.id_sub=study_table.id_sub;
```

19. Delete students their score is lower than 50 in a particular subject exam.

```
MySQL localhost:3306 ssl iti SQL > delete from student where firstname in (select firstname from student inner join study_table on (student.id=study_table.id) where grade<50);
```