SQL 課堂練習 2

有一資料庫 **School**，假設它的 relation 分別代表：學生(**Student**)、課程 (**Course**)、老師(**Teacher**)、學生修課資訊 (**SC**) ，此四個 relation 的 schema 如下所示:

     Student(Sid, Sname, Sage, Ssex) *Course*(Cid, Cname, Tid)
     Teacher(Tid, Tname)   *SC*(Sid, Cid, Score)

請用 SQL 語言寫出下列之查詢。

1. **查詢學生男生、女生人數**

```sql
SELECT Ssex , COUNT(Ssex) FROM student GROUP BY Ssex
```

2. **查詢名字中含有「風」字的學生資訊**

```sql
SELECT Sname FROM student WHERE Sname LIKE '%風%'
```

3. **統計每門課程的學生選修人數（超過 5 人的課程才統計）**

```sql
SELECT course.Cname , COUNT(*) FROM course JOIN sc ON course.CId =
sc.CId GROUP BY course.Cname HAVING COUNT(*) > 5
```

4. **查詢每門課程的平均成績，結果按平均成績降冪排列 (由大排到小)**

```sql
SELECT course.Cname , AVG(sc.score) FROM course JOIN sc ON
course.CId = sc.CId GROUP BY course.Cname ORDER BY AVG(sc.score)
DESC
```

5. **查詢所有學生的課程及分數情況（存在學生沒成績，沒選課的情況）**

```sql
SELECT student.Sname , course.Cname , sc.score FROM student JOIN
sc ON student.SId = sc.SId JOIN course ON sc.CId = course.CId
```

6. **查詢任何一門課程成績在 70 分以上的姓名、課程名稱和分數**

```sql
SELECT student.Sname , course.Cname , sc.score FROM student JOIN
sc ON student.SId = sc.SId JOIN course ON sc.CId = course.CId
```

```sql
WHERE sc.score >= 70
```

7. 查詢存在學生成績不及格的課程

```sql
SELECT course.Cname FROM course JOIN sc ON course.CId = sc.CId
WHERE sc.score < 60 GROUP BY course.Cname
```

8. 查詢課程編號為 01 且課程成績在 80 分以上的學生的學號和姓名

```sql
SELECT student.SId , student.Sname , sc.score , sc.CId FROM
student JOIN sc ON student.SId = sc.SId WHERE sc.CId = '01' AND
sc.score >= 80
```

9. 查詢不同課程，成績相同的學生編號、課程編號、學生成績

```sql
SELECT s1.SId AS StudentID, c1.Cname AS Course1, c2.Cname AS
Course2, s1.Score
FROM sc AS s1
JOIN sc AS s2 ON s1.SId = s2.SId AND s1.CId < s2.CId AND s1.Score
= s2.Score
JOIN course AS c1 ON s1.CId = c1.CId
JOIN course AS c2 ON s2.CId = c2.CId;
```

10. 查詢 1990 年出生的學生名單

```sql
SELECT student.Sname , student.Sage FROM student WHERE
YEAR(student.Sage) = 1990
```