RUNTIME OUTPUT

1. **List all the teachers**

```
C:\WINDOWS\system32\cmd.exe

-----------------------------------------
Teacher ID: 2, Name: Teacher2
Teacher ID: 3, Name: Teacher3
Teacher ID: 4, Name: Teacher4
Teacher ID: 5, Name: Teacher5
Teacher ID: 7, Name: Teacher7
[1] add a new teacher
[2] update a teacher
[3] remove a teacher
[4] list all teachers
[5] list all courses of a teacher
[6] add a new course
[7] update a course
[8] remove a course
[9] list all courses
[10] list all teachers and courses
[0] exit
Enter a numeric selection:
```

2. **Add a new teacher**

```
C:\ C:\WINDOWS\system32\cmd.exe

-----------------------------------------------
Enter a teacher name:
Jerry
Jerry has been added to the database.
[1] add a new teacher
[2] update a teacher
[3] remove a teacher
[4] list all teachers
[5] list all courses of a teacher
[6] add a new course
[7] update a course
[8] remove a course
[9] list all courses
[10] list all teachers and courses
[0] exit
Enter a numeric selection:
```

3. **List all the teachers**

```
C:\ C:\WINDOWS\system32\cmd.exe

--------------------------------------------------
Teacher ID: 2, Name: Teacher2
Teacher ID: 3, Name: Teacher3
Teacher ID: 4, Name: Teacher4
Teacher ID: 5, Name: Teacher5
Teacher ID: 7, Name: Teacher7
Teacher ID: 8, Name: Jerry
[1] add a new teacher
[2] update a teacher
[3] remove a teacher
[4] list all teachers
[5] list all courses of a teacher
[6] add a new course
[7] update a course
[8] remove a course
[9] list all courses
[10] list all teachers and courses
[0] exit
Enter a numeric selection:
```

4. **Add a new course**
   Assign the new course to the new teacher

```
----------------------------------------------
Enter a course name:
Algorithms
Teacher ID: 2, Name: Teacher2
Teacher ID: 3, Name: Teacher3
Teacher ID: 4, Name: Teacher4
Teacher ID: 5, Name: Teacher5
Teacher ID: 7, Name: Teacher7
Teacher ID: 8, Name: Jerry
Select a teacher for this course.
Enter a numeric selection:
8
Algorithms has been added to the database.
[1] add a new teacher
[2] update a teacher
[3] remove a teacher
[4] list all teachers
[5] list all courses of a teacher
[6] add a new course
[7] update a course
[8] remove a course
[9] list all courses
[10] list all teachers and courses
[0] exit
Enter a numeric selection:
```

5. **List all courses of a teacher**

Select the new teacher

```
C:\WINDOWS\system32\cmd.exe

--------------------------------------------------
Teacher ID: 2, Name: Teacher2
Teacher ID: 3, Name: Teacher3
Teacher ID: 4, Name: Teacher4
Teacher ID: 5, Name: Teacher5
Teacher ID: 7, Name: Teacher7
Teacher ID: 8, Name: Jerry
Enter a numeric selection:
8
Listing courses for [ID: 8, Name: Jerry]:
Course ID: 6, Name: Algorithms
[1] add a new teacher
[2] update a teacher
[3] remove a teacher
[4] list all teachers
[5] list all courses of a teacher
[6] add a new course
[7] update a course
[8] remove a course
[9] list all courses
[10] list all teachers and courses
[0] exit
Enter a numeric selection:
```

Runtime output for demo

Close the application and list all the teachers and their courses.

```
C:\ C:\WINDOWS\system32\cmd.exe

-----------------------------------------
Listing courses for [ID: 2, Name: Teacher2]:
Course: [ID: 2, Name: Science]
Listing courses for [ID: 3, Name: Teacher3]:
Course: [ID: 3, Name: History]
Listing courses for [ID: 4, Name: Teacher4]:
Course: [ID: 4, Name: English]
Listing courses for [ID: 5, Name: Teacher5]:
Course: [ID: 5, Name: Spanish]
Listing courses for [ID: 7, Name: Teacher7]:
No courses for [ID: 7, Name: Teacher7]
Listing courses for [ID: 8, Name: Jerry]:
Course: [ID: 6, Name: Algorithms]
[1] add a new teacher
[2] update a teacher
[3] remove a teacher
[4] list all teachers
[5] list all courses of a teacher
[6] add a new course
[7] update a course
[8] remove a course
[9] list all courses
[10] list all teachers and courses
[0] exit
Enter a numeric selection:
```

Add an existing course to a new teacher.

```
C:\WINDOWS\system32\cmd.exe

---------------------------------------------
[1] find by name
[2] find by id
Enter a numeric selection:
2
Course ID: 1, Name: Maths
Course ID: 2, Name: Science
Course ID: 3, Name: History
Course ID: 4, Name: English
Course ID: 5, Name: Spanish
Course ID: 6, Name: Algorithms
Enter a numeric selection:
2
[1] update name
[2] update teacher
Enter a numeric selection:
2
Current teacher for the course:
Teacher: [ID: 2, Name: Teacher2]
Change this course's teacher to:
Teacher ID: 3, Name: Teacher3
Teacher ID: 4, Name: Teacher4
Teacher ID: 5, Name: Teacher5
Teacher ID: 7, Name: Teacher7
Teacher ID: 8, Name: Jerry
Enter a numeric selection:
3
Science has been updated.
[1] add a new teacher
[2] update a teacher
```

List all courses assigned to the new teacher.

```
C:\ C:\WINDOWS\system32\cmd.exe

---------------------------------------------------
Teacher ID: 2, Name: Teacher2
Teacher ID: 3, Name: Teacher3
Teacher ID: 4, Name: Teacher4
Teacher ID: 5, Name: Teacher5
Teacher ID: 7, Name: Teacher7
Teacher ID: 8, Name: Jerry
Enter a numeric selection:
3
Listing courses for [ID: 3, Name: Teacher3]:
Course ID: 2, Name: Science
Course ID: 3, Name: History
[1] add a new teacher
[2] update a teacher
[3] remove a teacher
[4] list all teachers
[5] list all courses of a teacher
[6] add a new course
[7] update a course
[8] remove a course
[9] list all courses
[10] list all teachers and courses
[0] exit
Enter a numeric selection:
```

Remove a course

```
C:\ C:\WINDOWS\system32\cmd.exe

-------------------------------------------------
Course ID: 1, Name: Maths
Course ID: 2, Name: Science
Course ID: 3, Name: History
Course ID: 4, Name: English
Course ID: 5, Name: Spanish
Course ID: 6, Name: Algorithms
Enter a numeric selection:
2
Science has been removed.
[1] add a new teacher
[2] update a teacher
[3] remove a teacher
[4] list all teachers
[5] list all courses of a teacher
[6] add a new course
[7] update a course
[8] remove a course
[9] list all courses
[10] list all teachers and courses
[0] exit
Enter a numeric selection:
```

List the updated teacher without the removed course

```
C:\ C:\WINDOWS\system32\cmd.exe

----------------------------------------------
Teacher ID: 2, Name: Teacher2
Teacher ID: 3, Name: Teacher3
Teacher ID: 4, Name: Teacher4
Teacher ID: 5, Name: Teacher5
Teacher ID: 7, Name: Teacher7
Teacher ID: 8, Name: Jerry
Enter a numeric selection:
3
Listing courses for [ID: 3, Name: Teacher3]:
Course ID: 3, Name: History
[1] add a new teacher
[2] update a teacher
[3] remove a teacher
[4] list all teachers
[5] list all courses of a teacher
[6] add a new course
[7] update a course
[8] remove a course
[9] list all courses
[10] list all teachers and courses
[0] exit
Enter a numeric selection:
```

List all the courses without the removed course.

```
C:\ C:\WINDOWS\system32\cmd.exe

------------------------------------------------
Course ID: 1, Name: Maths
Course ID: 3, Name: History
Course ID: 4, Name: English
Course ID: 5, Name: Spanish
Course ID: 6, Name: Algorithms
[1] add a new teacher
[2] update a teacher
[3] remove a teacher
[4] list all teachers
[5] list all courses of a teacher
[6] add a new course
[7] update a course
[8] remove a course
[9] list all courses
[10] list all teachers and courses
[0] exit
Enter a numeric selection:
```