

Database Team Project #3

Building a school information system using JDBC

- Develop a school information system using the data from Project #1
- Use JAVA and JDBC
- Due: May 5th, 2016 11 : 59 PM

Please read the following direction of what information system should offer. The system should connect to the school's database using Tibero JDBC driver.

1. Log in process

Welcome

Please sign in

ID :

Name :

User ID and name will be asked for log in. The system should distinguish whether the user is student or instructor.

- 1-1. Incorrect authentication scenario

If an exact match of ID and name was not given, ask for ID and name again.

Welcome

Please sign in

ID : 12121

Name : WrongName

Wrong authentication.

Please sign in

ID :

Name :

2. Student menu

If a user is the member of student, student can view either student report or time table of the courses he or she takes.

```
Please sign in
ID       : 12345
Name     : Shankar

Please select student menu
1) Student report
2) View time table
0) Exit
>>
```

3. Student report

Student report should clarify user's basic information such as name, department, and total credits the student has taken. The report should also show each semester's report with GPA in reverse time order. Since the original data consists letter grade only, you should figure out how to calculate the GPA. But, you should not create a new table. **Usage of DDL is forbidden by the database administrator.**

GPA Calculation

$$GPA = \frac{\sum(GP \times Credit)}{\sum(Credit)}$$

Letter grade to grade point conversion table

A+	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	F
4.3	4	3.7	3.3	3	2.7	2.3	2	1.7	1.3	1	0.7	0

>> 1

Welcome Shankar
You are a member of Comp. Sci.
You have taken total 32 credits

Semester report

2010 Spring GPA : 4.00000

course_id	title	dept_name	credits	grade
CS-315	Robotics	Comp. Sci.	3	A

2009 Fall GPA : 2.85714

course_id	title	dept_name	credits	grade
CS-101	Intro. to Computer Science	Comp. Sci.	4	C
CS-347	Database System Concepts	Comp. Sci.	3	A

2009 Spring GPA : 4.00000

course_id	title	dept_name	credits	grade
CS-190	Game Design	Comp. Sci.	4	A

Please select student menu

- 1) Student report
- 2) View time table
- 0) Exit

>>

3.1 In case of Null grade

If a grade is null, GPA should be null.

2010 Summer GPA :

course_id	title	dept_name	credits	grade
BIO-301	Genetics	Biology	4	

4. Time table

A time table should show a list of semester the student took in a reverse time order. When a certain semester is chosen, the according time table should be shown.

```
>> 2
```

```
Please select semester to view
```

```
1) 2010 Spring
```

```
2) 2009 Fall
```

```
3) 2009 Spring
```

```
>> 2
```

course_id	title	day	start_time	end_time
CS-101	Intro. to Computer Science	W	10 : 0	12 : 30
CS-347	Database System Concepts	F	8 : 0	8 : 50
CS-347	Database System Concepts	M	8 : 0	8 : 50
CS-347	Database System Concepts	W	8 : 0	8 : 50

5. Instructor menu

If a user is an instructor of the school, instructor menu should be shown instead of student menu. The menu should include a course report and an advisee report.

```
Please sign in
```

```
ID      : 12121
```

```
Name    : Wu
```

```
Please select instructor menu
```

```
1) Course report
```

```
2) Advisee report
```

```
0) Exit
```

```
>>
```

6. Course report

A course report should show information about the instructor's most recent semester. The report should include information of the course the instructor is teaching such as course ID, title, location of classroom, time and students who take the course.

```
>> 1
```

```
Course report - 2010 Spring
```

CS-101	Intro. to Computer Science	[Packard 101] (R, T 14 : 30 - 15 : 45)
ID	name	dept_name
45678	Levy	Physics B+
CS-319	Image Processing	[Watson 100] (F, M, W 9 : 0 - 9 : 50)
ID	name	dept_name
45678	Levy	Physics B
76543	Brown	Comp. Sci. A

7. Advisee report

The advisee report should show student's basic information who instructor advises.

```
>> 2
```

ID	name	dept_name	tot_cred
44553	Peltier	Physics	56
45678	Levy	Physics	46

8. Submission

Submit your files in zip format to TA (hsoh@idb.snu.ac.kr) with email title [DB] Project 3 Team #. Archive file name should be PRJ3_Team_#.zip

- a. Source files (must have been commented), ReadMe for compile instruction

Strongly recommended to check for compilation in prompt. TA may not use IDE.

- b. Report in Word(docx or doc) format

Observation and explanation on solving each process (Login & 4 menu)

Each member's contribution

- c. Query experiment on chapter 5.2 and 5.3 (pptx or ppt)

9. Grading policy

The project will be graded in 3 categories: Test validation, Report, and SQL skill.

- 1) The code will be executed with test scenario. **WE WILL NOT GRADE PRETTYNESS OF OUTPUT** as long as the output data is same with TA's output. Please don't spend time on formatting output.
- 2) Report should include the requirements listed above.
- 3) SQL Skill will be graded on familiarity of query generation

10. Late assignment policy

For every 1 day delay, 20% of the total score will be reduced. (Max 2 days)