

ITC313-Assignment 2 Task 1

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Overview

GradingTool provides several functions for managing a database of grades. Grades are stored with one row per student, with one table per subject.

Pre-requisites

I tested using OpenJDP 1.7 and MySQL 14.14 on Ubuntu:

```
$ java -version
java version "1.7.0_65"
OpenJDK Runtime Environment (IcedTea 2.5.2) (7u65-2.5.2-3~14.04)
OpenJDK 64-Bit Server VM (build 24.65-b04, mixed mode)
```

```
$ mysql -V
mysql Ver 14.14 Distrib 5.5.38, for debian-linux-gnu (x86_64) using readline 6.3
```

Database

The application uses a properties file `db.properties`. Edit this file to select a database server. The default values are:

```
user=root
password=abc123
server=localhost
port=3306
database=ST11429074
```

How to run

Extract

```
unzip 11429074_ass2.zip
cd ITC313-Ass2-master/task1
```

Create database

```
mysql -u root -p < createDatabase.sql
```

Compile and run using ant

```
ant
```

Expected output

Initial screen with no tables.

The screenshot shows a window titled "Grading Tool". The interface is divided into several sections:

- Tables section:** Contains a dropdown menu labeled "Using table null", a "Create:" label, and a "Create table" button. There are also "Change table" and "Drop table" buttons.
- Select section:** Contains a "Column:" dropdown menu with "ID" selected, a "Value:" input field with "0", an "Operator:" dropdown menu with ">" selected, and a "Select" button.
- Insert section:** Contains four input fields labeled "Name", "Assignment 1", "Assignment 2", and "Assignment 3", and an "Add Student" button.
- Status bar:** At the bottom, it says "Loaded database ST11429074".

Clicking *Create table* without entering a table name gives an error

EXPECTED OUTPUT

The screenshot shows the 'Grading Tool' window. At the top, there's a 'Tables' section with a dropdown menu labeled 'Using table null', a 'Change table' button, and a 'Drop table' button. Below this is a 'Create:' label followed by an empty text input field and a 'Create table' button. In the middle section, there's a 'Select' area with 'Column:' set to 'ID', 'Value:' set to '0', and an 'Operator:' dropdown set to '>'. A 'Select' button is to the right. At the bottom, there's an 'Insert' section with four input fields labeled 'Name', 'Assignment 1', 'Assignment 2', and 'Final'. The 'Name' field is empty, while the others contain placeholder text. An 'Add Student' button is to the right. A status bar at the very bottom displays the message 'Cannot create table with empty name'.

Type a table name and click *Create table* to create a new, empty table.

This screenshot shows the 'Grading Tool' window after a new table has been created. The 'Using table null' dropdown now shows 'ITC000'. The 'Create:' text input field also contains 'ITC000'. The 'Create table' button is still present. The 'Select' section remains unchanged with 'ID' as the column, '0' as the value, and '>' as the operator. The 'Insert' section at the bottom is also unchanged. The status bar at the bottom now displays the message 'Created new table ITC000'.

The new table appears in the drop-down menu and can be used by clicking *Change table*.

EXPECTED OUTPUT

The screenshot shows the 'Grading Tool' window. At the top, the 'Tables' section indicates 'Using table ITC000'. Below this, there are buttons for 'Change table', 'Drop table', and 'Create table'. The 'Create:' field contains 'ITC000'. In the 'Select' section, 'Column:' is set to 'ID', 'Operator:' is '>', and 'Value:' is '0'. A 'Select' button is present. Below the select section is a table with columns: ID, Name, Assignment 1, Assignment 2, Assignment 3, Final, and Final score. The table is currently empty. At the bottom, the 'Insert' section has input fields for 'Name', 'Assignment 1', 'Assignment 2', and 'Assignment 3', followed by a 'Final' label and an 'Add Student' button. A status bar at the bottom says 'Now using table ITC000'.

Add a student by entering their details and clicking *Add Student*. Inputs are checked:

Name is missing.

This screenshot shows the same 'Grading Tool' window as before, but with a validation error. The 'Name' input field in the 'Insert' section is highlighted in red, and a red error message 'Enter a name' is displayed below it. All other elements, including the table and buttons, remain the same.

EXPECTED OUTPUT

Number is not between 0 and 100.

The screenshot shows the 'Grading Tool' window. In the 'Tables' section, 'Using table ITC000' is selected. The 'Create:' field contains 'ITC000'. In the 'Select' section, 'Column:' is 'ID', 'Value:' is '0', and 'Operator:' is '>'. The 'Select' button is highlighted. Below this is a table with columns: ID, Name, Assignment 1, Assignment 2, Assignment 3, Final, and Final score. The table is empty. In the 'Insert' section, the 'Name' field contains 'Janet', 'Assignment 1' contains '80', 'Assignment 2' contains '100', and 'Assignment 3' contains '90'. The 'Final' field is empty. The 'Add Student' button is highlighted. A message at the bottom says 'Enter grade between 0 and 100'.

ID	Name	Assignment 1	Assignment 2	Assignment 3	Final	Final score
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Name	Janet	Assignment 1	80	Assignment 2	100	
Assignment 3	90	Final	9001			

A number was not entered into one of the grades.

The screenshot shows the 'Grading Tool' window. In the 'Tables' section, 'Using table ITC000' is selected. The 'Create:' field contains 'ITC000'. In the 'Select' section, 'Column:' is 'ID', 'Value:' is '0', and 'Operator:' is '>'. The 'Select' button is highlighted. Below this is a table with columns: ID, Name, Assignment 1, Assignment 2, Assignment 3, Final, and Final score. The table is empty. In the 'Insert' section, the 'Name' field contains 'Janet', 'Assignment 1' contains '80', 'Assignment 2' contains '100', and 'Assignment 3' contains '90'. The 'Final' field contains 'abc'. The 'Add Student' button is highlighted. A message at the bottom says 'Incorrect number format'.

ID	Name	Assignment 1	Assignment 2	Assignment 3	Final	Final score
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Name	Janet	Assignment 1	80	Assignment 2	100	
Assignment 3	90	Final	abc			

Confirmation when student added:

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EXPECTED OUTPUT

The screenshot shows the 'Grading Tool' window. The 'Tables' section shows 'Using table ITC000' with a dropdown menu set to 'ITC000' and buttons for 'Change table', 'Drop table', and 'Create table'. The 'Create:' field also contains 'ITC000'. The 'Select' section has 'Column:' set to 'ID', 'Operator:' set to '>', and 'Value:' set to '0'. A 'Select' button is visible. Below this is a table with columns: ID, Name, Assignment 1, Assignment 2, Assignment 3, Final, and Final score. The table is currently empty. At the bottom, the 'Insert' section has fields for 'Name', 'Assignment 1', 'Assignment 2', and 'Assignment 3', with a final 'Final' field and an 'Add Student' button. A status bar at the bottom indicates 'Added new Student Janet'.

ID	Name	Assignment 1	Assignment 2	Assignment 3	Final	Final score
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Click Select to display the new user, including the calculated final score.

The screenshot shows the 'Grading Tool' window after clicking the 'Select' button. The 'Select' section remains the same. The table now displays one row of data for Janet. The status bar at the bottom indicates 'Selected 1 students'.

ID	Name	Assignment 1	Assignment 2	Assignment 3	Final	Final score
1	Janet	80	100	90	85	88

Change the column, operator and value to search by any column.

EXPECTED OUTPUT

Grading Tool

Tables

Using table one: **one** Change table Drop table

Create: Create table

Select

Column: **ID** Operator: **<=**

Value: **17** Select

ID	Name	Assignmen...	Assignmen...	Assignmen...	Final	Final score
1	Caleb	71	56	31	95	72
2	Miriam	22	11	26	1	10
3	Priscilla	22	68	71	94	77
4	Clay	57	60	94	73	73
5	Tricia	6	47	36	37	35
6	Harold	99	57	28	61	57
7	Sergio	75	31	23	67	51
8	Verna	43	5	5	22	17
9	Robyn	85	66	57	19	42
10	Carolyn	45	78	12	13	29
11	Cecilia	76	74	89	0	40
12	Robin	61	32	71	21	37
13	Roberto	14	95	50	89	74
14	Brent	46	8	32	96	60
15	Monique	49	98	40	76	70
16	Andy	99	0	50	70	54
17	Mathew	92	37	12	41	39

Insert

Name: Assignment 1: Assignment 2:

Assignment 3: Final: Add Student

Selected 17 students

Use % as a wild card when using like.

Grading Tool

Tables

Using table one: **one** Change table Drop table

Create: Create table

Select

Column: **Name** Operator: **like**

Value: **%er%** Select

ID	Name	Assignmen...	Assignmen...	Assignmen...	Final	Final score
7	Sergio	75	31	23	67	51
8	Verna	43	5	5	22	17
13	Roberto	14	95	50	89	74
23	Sherry	66	89	33	6	34
27	Gerardo	60	5	74	31	37
33	Chester	78	53	32	64	56
36	Cameron	44	22	91	36	45
52	Sylvester	16	37	2	65	41
57	Christopher	52	17	38	38	35

Insert

Name: Assignment 1: Assignment 2:

Assignment 3: Final: Add Student

Selected 9 students

EXPECTED OUTPUT

Grading Tool

Tables

Using table one: one Change table Drop table

Create: Create table

Select

Column: Assignment 1 Operator: =

Value: 66 Select

ID	Name	Assignmen...	Assignmen...	Assignmen...	Final	Final score
23	Sherry	66	89	33	6	34

Insert

Name: Assignment 1: Assignment 2:

Assignment 3: Final: Add Student

Selected 1 students

Grading Tool

Tables

Using table one: one Change table Drop table

Create: Create table

Select

Column: Final score Operator: >=

Value: 60 Select

ID	Name	Assignmen...	Assignmen...	Assignmen...	Final	Final score
1	Caleb	71	56	31	95	72
3	Priscilla	22	68	71	94	77
4	Clay	57	60	94	73	73
13	Roberto	14	95	50	89	74
14	Brent	46	8	32	96	60
15	Monique	49	98	40	76	70
26	Trevor	79	43	81	70	67
38	Lindsay	57	62	92	61	67
40	Seth	56	21	94	82	69
47	Alex	99	83	89	94	91
56	Sarah	89	94	17	98	80

Insert

Name: Assignment 1: Assignment 2:

Assignment 3: Final: Add Student

Selected 11 students