

## COMP 1451 Lab 2-a ( 2 points )

This lab is meant to be done with a partner.

Create a class called **StudentDatabase**. This class has one instance variable:

```
private HashMap<String, int[]> quizMarks;
```

The keys to the map will be student names, and the values will be an array of int containing that student's quiz marks. The names will be formatted with the first letter in upper case and the rest in lower. Initialize the instance variable in the constructor, as usual.

Use these constants:

```
public static final int NUM_QUIZZES    = 10;  
public static final int MIN_GRADE      = 0;  
public static final int MAX_GRADE      = 100;
```

Provide the following methods:

```
/** @return the properly-formatted name. */  
private String formatName(String name)
```

```
/** Add a student to the database and create a new array to hold  
that student's quiz marks ( NUM_QUIZZES quizzes). These marks  
will by default be set to MIN_GRADE. */  
public void addStudent(String studentName)
```

```
/** @return the array of quiz marks for this student. */  
public int[] getQuizzes(String student)
```

```
/** Change the mark for the specified student. This method  
ensures the student exists in the database. It also ensures the  
quiz to be changed is valid, and the mark is within the range  
MIN_GRADE to MAX_GRADE. If anything is not valid it displays an  
appropriate error message. */  
public void changeQuizMark(String studentName, int whichQuiz, int  
newMark)
```

```
/** Display the quiz marks for all students in the database. */  
public void showQuizMarks()
```

Sample display:

```
Quiz marks for: Colleen  
10 9 10 0 0 0 0 0 0  
Quiz marks for: Bill  
9 10 10 0 0 0 0 0 0
```

Demonstrate your completed project to your instructor or TA before leaving the lab and be sure we have checked it off for each member of the team. A suggested solution will

be given during the next class and labs that have not been checked off will not receive any points.