# Hands-on Experiment # 6 : Worksheet

Section\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

No more than 3 students per one submission of this worksheet.

Student ID \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Student ID \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Student ID \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

## Part A: Loop Writing Practice

In *MathPowLoop.java*, write Java statements using “loops” to calculate result2 so that its value is similar to result1 (which is calculated from *Math.pow()* ) for every double a and int b.

No methods in the *Math* class is allowed.

List your code here.

Test your code with the following test data set.

|  |  |  |  |
| --- | --- | --- | --- |
| a | b | Math.pow(a,b) | Your code |
| 2.0 | 8 |  |  |
| 2.5 | 3 |  |  |
| -2.0 | 8 |  |  |
| 1.0 | 1 |  |  |
| 1.0 | 0 |  |  |
| 2.0 | 30 |  |  |
| -2.0 | 30 |  |  |
| 2.0 | -1 |  |  |
| 2.0 | -4 |  |  |

## Part B: Text File Processing

The file *score.csv* contains scores from the midterm examination of a programming course, which has 5 questions (Q1-Q5). The file is in the “Comma-separated Value” format (<http://en.wikipedia.org/wiki/Comma-separated_values>) with the first line being the header labels describing the order of data on the other lines.

* Read <http://docs.oracle.com/javase/7/docs/api/java/util/Scanner.html> to learn how to read a text file using an instance of the Scanner class.
* Open the file in a spreadsheet application (such as MS Excel). If you do not have any spreadsheet application on your machine, try using Google Spreadsheet.
  + Use the application to find the average score, the maximum score, and the minimum score of each question (Q1-Q5).
  + Find the average of the total score and its corresponding standard deviation.
* Fill the results in the following table.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| From Spreadsheet | Average | Standard Deviation | Max | Min |
| Q1 |  |  |  |  |
| Q2 |  |  |  |  |
| Q3 |  |  |  |  |
| Q4 |  |  |  |  |
| Q5 |  |  |  |  |
| Total |  |  |  |  |

* Write a Java program to:
  + Compute the average score, the maximum score, and the minimum score of each question (Q1-Q5).
  + Compute the average of the total score and its corresponding standard deviation.
* Fill the results in the following table.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| From Your Java App | Average | Standard Deviation | Max | Min |
| Q1 |  |  |  |  |
| Q2 |  |  |  |  |
| Q3 |  |  |  |  |
| Q4 |  |  |  |  |
| Q5 |  |  |  |  |
| Total |  |  |  |  |

List your code here.

Submit this worksheet (by only one member of the group) via <http://www.myCourseVille.com> (Assignments > Hands-on Experiment # 6) **within the day after your lecture**.