

# Assignment 4

## Summary

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**Due Date:** (See Slate\ Assignments)

**Weight:** 4% of final grade

## Submission notes

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This assignment is to be done individually; you are not allowed to work on this assignment with anyone. See also the [Academic Integrity Policy and the Assignment and Exam Policies](#)

## Description

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Write a Java application that keeps track of mal-formed or defective items manufactured by several workers in a manufacturing company.

Your program asks user to record the number of defective items in various batches created by different workers for one week, summarize the data, and then display some statistics about that data, such as the average number of rejected items per day.

Sample user interaction for this part of the program:

```
Day 1
Number of Rejected Items for Worker 1: 5
Another? (Y/N) y
Number of Rejected Items for Worker 2: 3
Another? (Y/N) Y
Number of Rejected Items for Worker 3: 7
Another? (Y/N) y
Number of Rejected Items for Worker 4: 5
Another? (Y/N) N
Day 1 Total: 20

Day 2
Number of Rejected Items for Worker 1: 2
Another? (Y/N) y
Number of Rejected Items for Worker 2: 1
Another? (Y/N) Y
Number of Rejected Items for Worker 3: 5
Another? (Y/N) n
Day 2 Total: 8
```

Your program records the number of defective items each day for 6 days of the week (Monday to Saturday), the factory is closed one day per week. Every day, the number of rejected items created by a worker are added to a total.

For example:

Totals for Monday: Worker 1: 5 items Worker 2: 3 items Worker 3: 7 items Worker 4: 5 items Total for Monday: 20 items defective/rejected	Totals for Tuesday: Worker 1: 2 items Worker 1: 1 item Worker 1: 5 items Total for Tuesday: 8 items defective/rejected
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Etc. Notice that there may not be the same number of workers every day (for example, a person might get a day off, work part time, whatever).

Your program should accumulate the number of defective items for each day. Each day's total is stored in an array.

### Test Cases:

Below is an example showing the complete user interaction and output in case you want some values to test your logic and math:

```
Day 1
Number of Rejected Items for Worker 1: 5
Another? (Y/N) y
Number of Rejected Items for Worker 2: 3
Another? (Y/N) Y
Number of Rejected Items for Worker 3: 7
Another? (Y/N) Y
Number of Rejected Items for Worker 4: 5
Another? (Y/N) n
Day 1 Total: 20
```

```
Day 2
Number of Rejected Items for Worker 1: 2
Another? (Y/N) Y
Number of Rejected Items for Worker 2: 1
Another? (Y/N) y
Number of Rejected Items: 5
Another? (Y/N) N
Day 2 Total: 8
```

```
Day 3
Number of Rejected Items for Worker 1: 1
Another? (Y/N) Y
Number of Rejected Items for Worker 2: 0
Another? (Y/N) Y
Number of Rejected Items for Worker 3: 5
Another? (Y/N) y
```

Number of Rejected Items for Worker 4: 2  
Another? (Y/N) Y  
Number of Rejected Items for Worker 5: 7  
Another? (Y/N) n  
Day 3 Total: 15

Day 4  
Number of Rejected Items for Worker 1: 3  
Another? (Y/N) Y  
Number of Rejected Items for Worker 2: 5  
Another? (Y/N) N  
Day 4 Total: 8

Day 5  
Number of Rejected Items: 3  
Another? (Y/N) y  
Number of Rejected Items for Worker 1: 3  
Another? (Y/N) y  
Number of Rejected Items for Worker 2: 2  
Another? (Y/N) Y  
Number of Rejected Items for Worker 3: 4  
Another? (Y/N) N  
Day 5 Total: 12

Day 6  
Number of Rejected Items: 7  
Another? (Y/N) y  
Number of Rejected Items for Worker 1: 2  
Another? (Y/N) y  
Number of Rejected Items for Worker 2: 5  
Another? (Y/N) Y  
Number of Rejected Items for Worker 3: 5  
Another? (Y/N) n  
Day 6 Total: 19

Statistics:

Total for Monday: 20 items defective/rejected

Total for Tuesday: 8 items defective/rejected

Total for Wednesday: 15 items defective/rejected

Total for Thursday: 8 items defective/rejected

Total for Friday: 12 items defective/rejected

Total for Saturday: 19 items defective/rejected

Day with highest # rejects: Monday  
Average: 13.7

## Tips!!

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Note that:

- The total for the day is displayed before retrieving values for the next day.
- The user can enter upper- or lower-case Y/N to continue adding values for a particular day (assume if it starts with a "y" or "Y" it means "Yes", anything else means "No").
- There is also a blank line between the end of one day and the start of the next day.

Once you have accumulated all the data, you need to summarize it and calculate some statistics:

- Calculate the day number with the highest number of defective items.
- Calculate the average total for all 6 days. Average is formatted to 1 decimal place.

## Submission

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Your submission must follow all the submission requirements outlined in the [Submission Standards](#) and [Coding Standards](#).

You are to submit 2 files:

1. Your Java source code for your program. You must put your name as the author's name as a comment on top of your java code.
2. A word document containing all your source code in text format. Also, add the screenshot of your output in your document. **You must use the test case for the screenshot.**

### 1. Source Code File:

Submit only the source code file (.java) for your program. DO NOT submit anything else or you will lose marks. DO NOT submit .class files, DO NOT submit your editor's backup files (e.g. .java~ or .bak), etc.

Your submission file must be archived into a valid ZIP or RAR file.

The name of this file should be loginName\_a4.zip or loginName\_a4.rar where "loginName" is your Sheridan username.

What to I ZIP and How?

Zip your .java file for your assignment (this is your source code file). Simply right-click it and there should be an option in the context menu, depending on what ZIP software you're using.

Or you can google for How to ZIP Your Project's Source Files in IntelliJ and learn how to do so.

### 2. Document of Source:

You must also copy and paste all your source code as a plain text into a Word file. Also provide the screenshot of your output in your document. **You must use the test case for the screenshot.**

DO NOT add it inside your zip/rar file - it must be a separate file. This is used for SLATE's originality checker (it won't accept java programs and won't examine the contents of zip/rar files).

Submit your assignment to the appropriate Assignment 4 drop box in SLATE.

## Evaluation

Your submission will be evaluated based on the following criteria:

Criteria	Mark
<b>Functionality</b>	
<ul style="list-style-type: none"> <li>Program doesn't correctly accumulate values for each day (-3)</li> <li>Program doesn't display all required information (-3)</li> <li>Program interaction doesn't match requirements and/or examples shown (-2)</li> <li>Program output doesn't appear as shown in requirements/examples, and/or is not formatted according to requirements (-2)</li> </ul>	/10
<b>Code</b>	
<ul style="list-style-type: none"> <li>Array is not created or used correctly; code is incorrect/inefficient/missing (-3)</li> <li>Program logic to accumulate values is incorrect/inefficient/missing (-5)</li> <li>Program logic to determine day# with highest value is incorrect/inefficient/missing (-5)</li> <li>Program to show the output text is incorrect/inefficient/missing (-3)</li> <li>Program logic to calculate average is incorrect/inefficient/missing (-4)</li> </ul>	/20
<b>Programming Style</b>	
<ul style="list-style-type: none"> <li>Class headers: incorrect class name, missing/incorrect modifier (-1)</li> <li>Class name doesn't start with upper-case letter (-2) Internal program documentation is missing/incomplete or doesn't make sense. (-2)</li> <li>Indentation is incorrect; incorrect indent size (must be 4 sp). (-2)</li> <li>Improper spacing between groups of stmts, above comment lines, above/below method/class headers, missing space around operators. (-2)</li> <li>Lines exceed 80 chars; long lines aren't broken/indented according to standards (indent 2nd/subsequent lines 4sp). (-1)</li> </ul>	/10
<b>Penalties</b>	
<input type="checkbox"/> Required programmer ID docs missing or incomplete. (-1) <input type="checkbox"/> Submission instructions: .src for TurnItIn late (-5% per day) or missing (-100%) <input type="checkbox"/> Submission instructions: Can't run program due to incorrect file (e.g. submitted bytecode instead of source code) (-100%) <input type="checkbox"/> Program crashes while being tested. (-50%) <input type="checkbox"/> Late Assignment: -10% per day, -100% after 7 days.	--
<b>Assignment 4 Total:</b>	<b>/40</b>