COMI 1510 Java Programming Programming Assignment 2

# Specifications

## Problem Description

Clarifications: Include in your submission everything you’ve clarified with the professor.

Assumptions: Include in your submission anything you assumed but didn’t clarify. Include a justification.

## Testing

Included with this assignment is a tab-delimited table of live birth data taken from the following website: <http://www.nber.org/data/vital-statistics-natality-data.html>

You may use a subset of this data for your test cases, or you may use it as a guide for what a natural range of birthweights in a population looks like and invent your own test cases.

### Test Case 1

#### Purpose

Test a case with all valid inputs.

#### Input

Data:

2183 3686 3459 3515 3912 3345 3941 5358 3260 1899 3657 4905 3062 3912 520 3005 3232 3487 2920 3430 2410 4536 3600 3033 3459 3686 3062 3033 3345 3657 2835 3430 2948 3771 3600 3941 3147 3459 4054 2977 3430 3742 3260 4111 3572 3062 3090 3856 3714 3430 2807 3771

#### Expected output

Computations:

ELBW: Values: 520; Average: 520; Percentage of total: 1 / 52 \* 100 = 1.92%

VLBW: Values: -; Average: 0; Percentage of total: 0

LBW: Values: 2183, 1899, 2410; Average: 2164; Percentage of total: 3 / 52 \* 100 = 5.77%

NBW: Values: (all the rest); Average: 3531.333; Percentage of total: 48 / 52 \* 100 = 92.31%

#### Output:

Category Average Number % of Total

Extremely LBW 520.00 1 1.92

Very LBW 0.00 0 0.00

Low Birth Weight 2164.00 3 5.77

Normal Weight 3531.33 48 92.31

#### Your program running

Paste your program executing in the testing document here. Show a complete execution: both inputs and output.

Please enter the next birth weight, -1 when done: 2183

Please enter the next birth weight, -1 when done: 3686

Please enter the next birth weight, -1 when done: 3459

Please enter the next birth weight, -1 when done: 3515

Please enter the next birth weight, -1 when done: 3912

Please enter the next birth weight, -1 when done: 3345

Please enter the next birth weight, -1 when done: 3941

Please enter the next birth weight, -1 when done: 5358

Please enter the next birth weight, -1 when done: 3260

Please enter the next birth weight, -1 when done: 1899

Please enter the next birth weight, -1 when done: 3657

Please enter the next birth weight, -1 when done: 4905

Please enter the next birth weight, -1 when done: 3062

Please enter the next birth weight, -1 when done: 3912

Please enter the next birth weight, -1 when done: 520

Please enter the next birth weight, -1 when done: 3005

Please enter the next birth weight, -1 when done: 3232

Please enter the next birth weight, -1 when done: 3487

Please enter the next birth weight, -1 when done: 2920

Please enter the next birth weight, -1 when done: 3430

Please enter the next birth weight, -1 when done: 2410

Please enter the next birth weight, -1 when done: 4536

Please enter the next birth weight, -1 when done: 3600

Please enter the next birth weight, -1 when done: 3033

Please enter the next birth weight, -1 when done: 3459

Please enter the next birth weight, -1 when done: 3686

Please enter the next birth weight, -1 when done: 3062

Please enter the next birth weight, -1 when done: 3033

Please enter the next birth weight, -1 when done: 3345

Please enter the next birth weight, -1 when done: 3657

Please enter the next birth weight, -1 when done: 2835

Please enter the next birth weight, -1 when done: 3430

Please enter the next birth weight, -1 when done: 2948

Please enter the next birth weight, -1 when done: 3771

Please enter the next birth weight, -1 when done: 3600

Please enter the next birth weight, -1 when done: 3941

Please enter the next birth weight, -1 when done: 3147

Please enter the next birth weight, -1 when done: 3459

Please enter the next birth weight, -1 when done: 4054

Please enter the next birth weight, -1 when done: 2977

Please enter the next birth weight, -1 when done: 3430

Please enter the next birth weight, -1 when done: 3742

Please enter the next birth weight, -1 when done: 3260

Please enter the next birth weight, -1 when done: 4111

Please enter the next birth weight, -1 when done: 3572

Please enter the next birth weight, -1 when done: 3062

Please enter the next birth weight, -1 when done: 3090

Please enter the next birth weight, -1 when done: 3856

Please enter the next birth weight, -1 when done: 3714

Please enter the next birth weight, -1 when done: 3430

Please enter the next birth weight, -1 when done: 2807

Please enter the next birth weight, -1 when done: 3771

Please enter the next birth weight, -1 when done: -1

Category Average Number % of Total

Extremely LBW 520.00 1 1.92

Very LBW 0.00 0 0.00

Low Birth Weight 2164.00 3 5.77

Normal Weight 3531.33 48 92.31

#### Conclusions

Describe whether your program’s output matches expectations.

### Test Case 2

#### Purpose

Invalid weights entered

#### Input

Data:

2183 3686 0 3515 3345 5358 3260 -2 3657 3062

#### Expected output

Computations:

ELBW: Values: -; Average: -; Percentage of total: 0

VLBW: Values: -; Average: 0; Percentage of total: 0

LBW: Values: 2183; Average: 2183; Percentage of total: 1 / 8 \* 100 = 12.5%

NBW: Values: (all the rest); Average: 3697.571; Percentage of total: 7 /8 \* 100 = 87.5%

***Output****:*

Please enter the next birth weight, -1 when done: 2183

Please enter the next birth weight, -1 when done: 3686

Please enter the next birth weight, -1 when done: 0

That is an invalid weight.

Please enter the next birth weight, -1 when done: 3515

Please enter the next birth weight, -1 when done: 3345

Please enter the next birth weight, -1 when done: 5358

Please enter the next birth weight, -1 when done: 3260

Please enter the next birth weight, -1 when done: -2

That is an invalid weight.

Please enter the next birth weight, -1 when done: 3657

Please enter the next birth weight, -1 when done: 3062

Please enter the next birth weight, -1 when done: -1

Category Average Number % of Total

Extremely LBW 0.00 0 0.00

Very LBW 0.00 0 0.00

Low Birth Weight 2183.00 1 12.50

Normal Weight 3697.57 7 87.50

#### Your program running

Paste your program executing in the testing document here. Show a complete execution: both inputs and output.

Please enter the next birth weight, -1 when done: 2183

Please enter the next birth weight, -1 when done: 3686

Please enter the next birth weight, -1 when done: 0

That is an invalid weight.

Please enter the next birth weight, -1 when done: 3515

Please enter the next birth weight, -1 when done: 3345

Please enter the next birth weight, -1 when done: 5358

Please enter the next birth weight, -1 when done: 3260

Please enter the next birth weight, -1 when done: -2

That is an invalid weight.

Please enter the next birth weight, -1 when done: 3657

Please enter the next birth weight, -1 when done: 3062

Please enter the next birth weight, -1 when done: -1

Category Average Number % of Total

Extremely LBW 0.00 0 0.00

Very LBW 0.00 0 0.00

Low Birth Weight 2183.00 1 12.50

Normal Weight 3697.57 7 87.50

#### Conclusions

Describe whether your program’s output matches expectations.

### Test Case 3

#### Purpose

No weights entered

#### Input

Data:

-1

#### Expected output

No weights were entered.

#### Your program running

Paste your program executing in the testing document here. Show a complete execution: both inputs and output.

Please enter the next birth weight, -1 when done: -1

No weights were entered.

#### Conclusions

Describe whether your program’s output matches expectations.

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