# Test 1: getDimensionSubRateTest

## Purpose:

To demonstrate the ability to parse rates from sub tables. Every table consists of a column outlining the ranges of each attribute of a parcel (e.g. weight, height) and column outlining the respective sub-rates associated with each range. This test is for parsing rates associated with numerical attributes.

## Inputs and Expected Output:

The value (double) of the attribute being tested, and the columns to consider (ints). The output is the rate associated with the range that the attribute falls into.

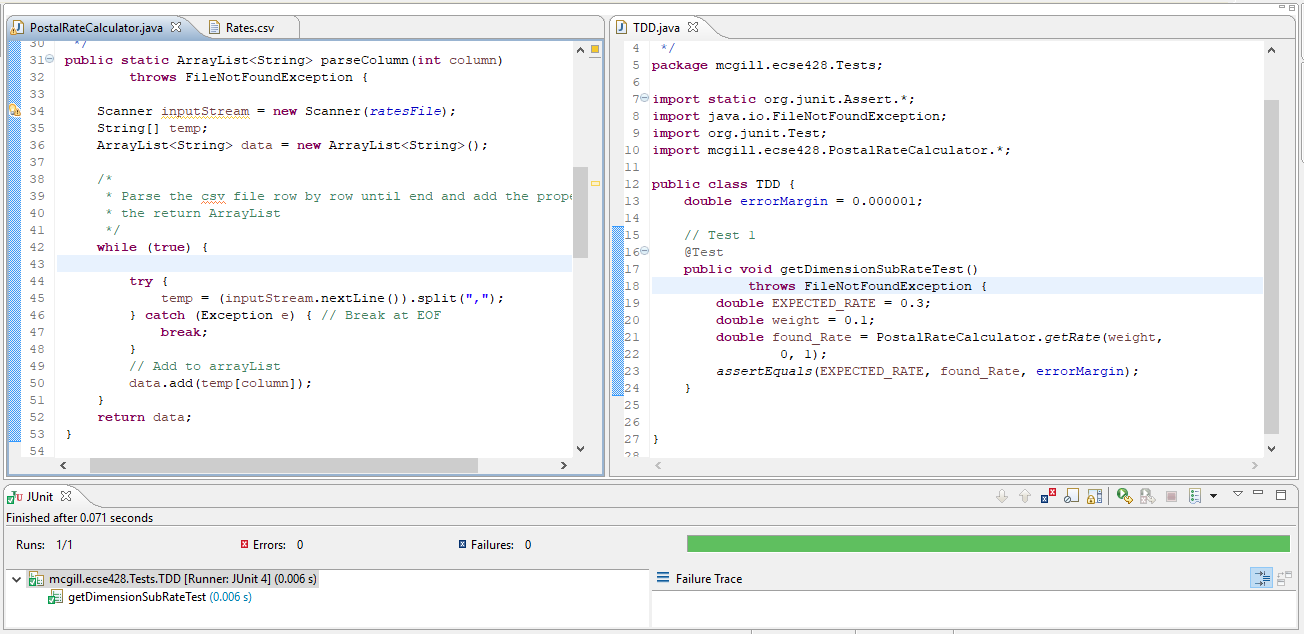
## Assumptions:

* The attribute have been verified to fall within range, and to be of correct format.

**Note:** The first and second screenshots illustrate the same test run but showing a helper method, and the tested method respectively. The success of the tested method indicates the success of the helper method.

## C:\Users\karim\AppData\Local\Microsoft\Windows\INetCache\Content.Word\Test_1_Fail.pngFailing Screenshot:

## C:\Users\karim\AppData\Local\Microsoft\Windows\INetCache\Content.Word\Test_1.2_Pass.pngPassing Screenshot:



# Test 2: typeRate

## Purpose:

To demonstrate the ability to parse the sub rates associated with the type of postage.

## Inputs and Expected Output:

The type of desired postage (Regular, Xpress, or Priority) as a String. The expected output is the respective rate associated with the input postage type.

## Assumptions:

* The input has been verified to be one of the three postage types mentioned.

## C:\Users\karim\AppData\Local\Microsoft\Windows\INetCache\Content.Word\Test_2_Fail.pngFailing Screenshot:

## C:\Users\karim\AppData\Local\Microsoft\Windows\INetCache\Content.Word\Test_2_Pass.pngPassing Screenshot:

# Test 3: toPostalCodeRate

## Purpose:

To demonstrate the ability to parse the sub rates associated with the destination (postal code) of the parcel.

## Inputs and Expected Output:

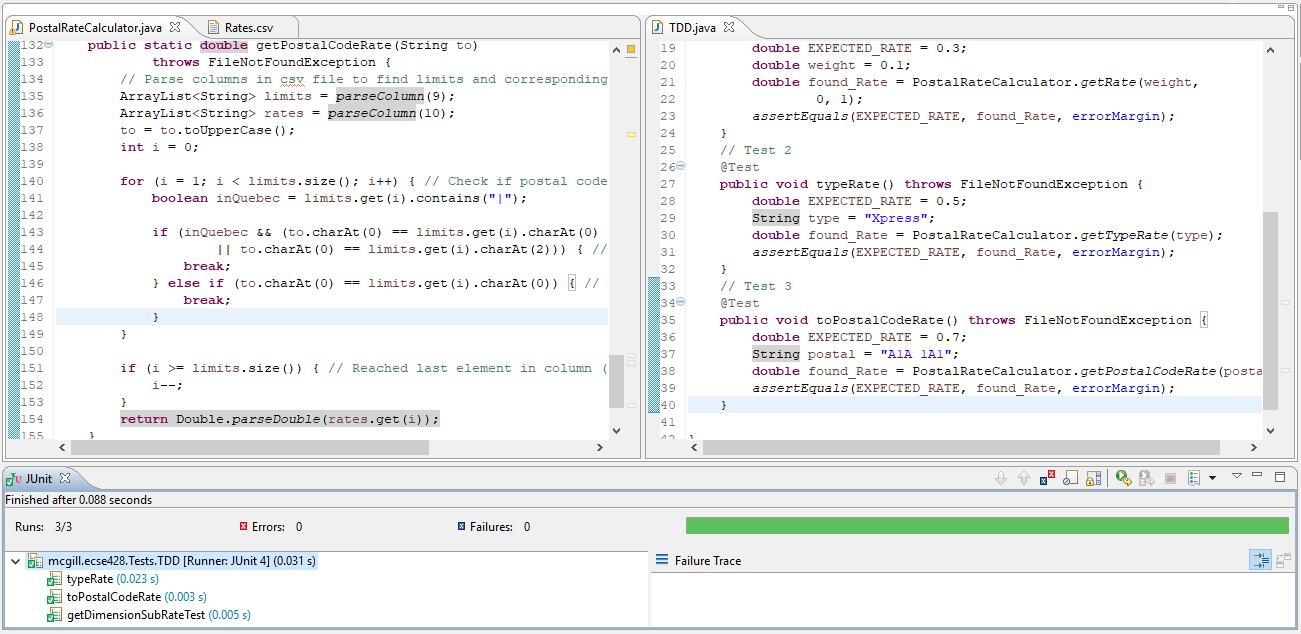
A string representing the destination postal code of the parcel (Starting with H to represent Montreal, G or J to represent the remainder of Quebec, and any other Letter to represent the rest of Canada). The expected output is the rate associated with the input postal code.

## Assumptions:

* This test assumes that the input postal code has been verified for proper postal code patterns.

## C:\Users\karim\AppData\Local\Microsoft\Windows\INetCache\Content.Word\Test_3_Fail.pngFailing Screenshot:

## Passing Screenshot:



# Test 4: baseFullRateTest

## Purpose:

To demonstrate the ability to get the full rate of a parcel based on the sub rate of all it’s attributes in the first range.

## Inputs and Expected Output:

Double values representing the ***weight*** (0.1 Kg), ***height*** (49 cm), ***width*** (49 cm), ***length*** (49 cm), and strings representing the ***destination postal code*** (H3Z 1J9) within Montreal, and ***type of postage*** (Regular). The expected output is the proper parcel rate (sum of all sub rates).

## Assumptions:

* All the double input values are within an accepted range, and of proper format.
* The origin postal code has been verified to be from Montreal (starting with an H)
* The origin and destination postal code match the proper postal code patterns.
* That the type of postage string has been verified to be one of the three postage types.

## C:\Users\karim\AppData\Local\Microsoft\Windows\INetCache\Content.Word\Test_4_Fail.pngFailing Screenshot:

## C:\Users\karim\AppData\Local\Microsoft\Windows\INetCache\Content.Word\Test_4_Pass.pngPassing Screenshot:

# Test 5: fullRateWeightChange

## Purpose:

To demonstrate the ability to get the full rate of a parcel with the ***weight*** dimension varied to be in the next range.

## Inputs and Expected Output:

Double values representing the ***weight (0.26 Kg),*** ***height*** (49 cm), ***width*** (49 cm), ***length*** (49 cm), and strings representing the ***destination postal code*** (H3Z 1J9) within Montreal, and ***type of postage*** (Regular). The expected output is the proper parcel rate (sum of all sub rates).

## Assumptions:

* All the double input values are within an accepted range, and of proper format.
* The origin postal code has been verified to be from Montreal (starting with an H)
* The origin and destination postal code match the proper postal code patterns.
* That the type of postage string has been verified to be one of the three postage types.

## Failing Screenshot:

This test does not fail, given that it relies mainly on two previously tested (failed then passed) methods.

## C:\Users\karim\AppData\Local\Microsoft\Windows\INetCache\Content.Word\Test_5_Pass.pngPassing Screenshot:

# Test 6: fullRateHeightChange

## Purpose:

To demonstrate the ability to get the full rate of a parcel with the ***height*** dimension varied to be in the next range.

## Inputs and Expected Output:

Double values representing the ***weight*** ***(0.26 Kg),*** ***height (99 cm),*** ***width*** (49 cm), ***length*** (49 cm), and strings representing the ***destination postal code*** (H3Z 1J9) within Montreal, and ***type of postage*** (Regular). The expected output is the proper parcel rate (sum of all sub rates).

## Assumptions:

* All the double input values are within an accepted range, and of proper format.
* The origin postal code has been verified to be from Montreal (starting with an H)
* The origin and destination postal code match the proper postal code patterns.
* That the type of postage string has been verified to be one of the three postage types.

## Failing Screenshot:

This test does not fail, given that it relies mainly on two previously tested (failed then passed) methods.

## C:\Users\karim\AppData\Local\Microsoft\Windows\INetCache\Content.Word\Test_6_Pass.pngPassing Screenshot:

# Test 7: fullRateLengthChange

## Purpose:

To demonstrate the ability to get the full rate of a parcel with the ***length*** dimension varied to be in the next range.

## Inputs and Expected Output:

Double values representing the ***weight (0.26 Kg),*** ***height (140 cm),*** ***width*** (49 cm), ***length (99 cm),*** and strings representing the ***destination postal code*** (H3Z 1J9) within Montreal, and ***type of postage*** (Regular). The expected output is the proper parcel rate (sum of all sub rates).

## Assumptions:

* All the double input values are within an accepted range, and of proper format.
* The origin postal code has been verified to be from Montreal (starting with an H)
* The origin and destination postal code match the proper postal code patterns.
* That the type of postage string has been verified to be one of the three postage types.

## Failing Screenshot:

This test does not fail, given that it relies mainly on two previously tested (failed then passed) methods.

## C:\Users\karim\AppData\Local\Microsoft\Windows\INetCache\Content.Word\Test_7_Pass.pngPassing Screenshot:

# Test 8: fullRateWidthChange

## Purpose:

To demonstrate the ability to get the full rate of a parcel with the ***width*** dimension varied.

## Inputs and Expected Output:

Double values representing the ***weight (0.26 Kg),*** ***height (140 cm),*** ***width (99 cm),*** ***length (140 cm),*** and strings representing the ***destination postal code*** (H3Z 1J9) within Montreal, and ***type of postage*** (Regular). The expected output is the proper parcel rate (sum of all sub rates).

## Assumptions:

* All the double input values are within an accepted range, and of proper format.
* The origin postal code has been verified to be from Montreal (starting with an H)
* The origin and destination postal code match the proper postal code patterns.
* That the type of postage string has been verified to be one of the three postage types.

## Failing Screenshot:

This test does not fail, given that it relies mainly on two previously tested (failed then passed) methods.

## C:\Users\karim\AppData\Local\Microsoft\Windows\INetCache\Content.Word\Test_8_Pass.pngPassing Screenshot:

# Test 9: fullRateTypeChange

## Purpose:

To demonstrate the ability to get the full rate of a parcel with the ***type*** of postage varied to be in the next range.

## Inputs and Expected Output:

Double values representing the ***weight (0.26 Kg),*** ***height (140 cm),*** ***width (99 cm),*** ***length (140 cm),*** and strings representing the ***destination postal code*** (H3Z 1J9) within Montreal, and ***type of postage*** ***(Xpress).*** The expected output is the proper parcel rate (sum of all sub rates).

## Assumptions:

* All the double input values are within an accepted range, and of proper format.
* The origin postal code has been verified to be from Montreal (starting with an H)
* The origin and destination postal code match the proper postal code patterns.
* That the type of postage string has been verified to be one of the three postage types.

## Failing Screenshot:

This test does not fail, given that it relies mainly on two previously tested (failed then passed) methods.

## C:\Users\karim\AppData\Local\Microsoft\Windows\INetCache\Content.Word\Test_9_Pass.pngPassing Screenshot:

# Test 10: fullRateToPostalCodeChange

## Purpose:

To demonstrate the ability to get the full rate of a parcel with the ***destination*** postal code varied to be in the next range (The Quebec, excluding Montreal, range).

## Inputs and Expected Output:

Double values representing the ***weight (0.26 Kg),*** ***height (140 cm),*** ***width (99 cm),*** ***length (140 cm),*** and strings representing the ***destination postal code (J3Q 1R9)*** within Montreal, and ***type of postage*** (Regular). The expected output is the proper parcel rate (sum of all sub rates).

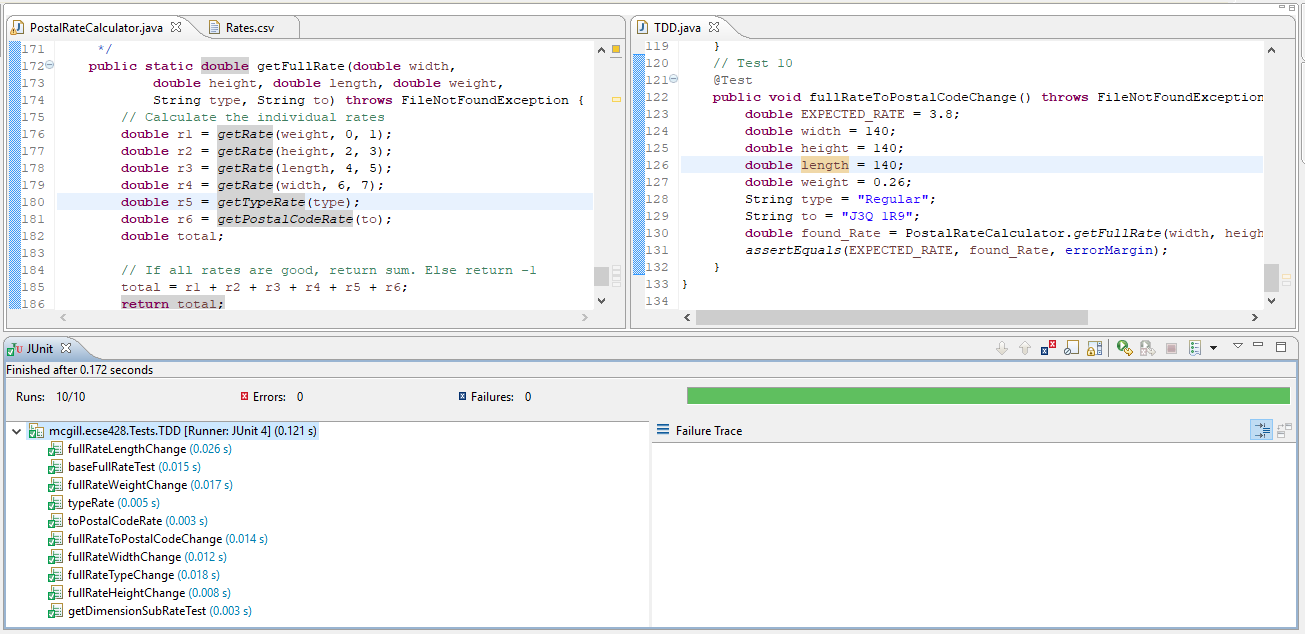
## Assumptions:

* All the double input values are within an accepted range, and of proper format.
* The origin postal code has been verified to be from Montreal (starting with an H)
* The origin and destination postal code match the proper postal code patterns.
* That the type of postage string has been verified to be one of the three postage types.

## Failing Screenshot:

This test does not fail, given that it relies mainly on two previously tested (failed then passed) methods.

## Passing Screenshot:



# Test 11: inValidDimensionFormat

## Purpose:

To verify that incorrect numeric format (e.g an alphanumeric value) is detected.

## Inputs and Expected Output:

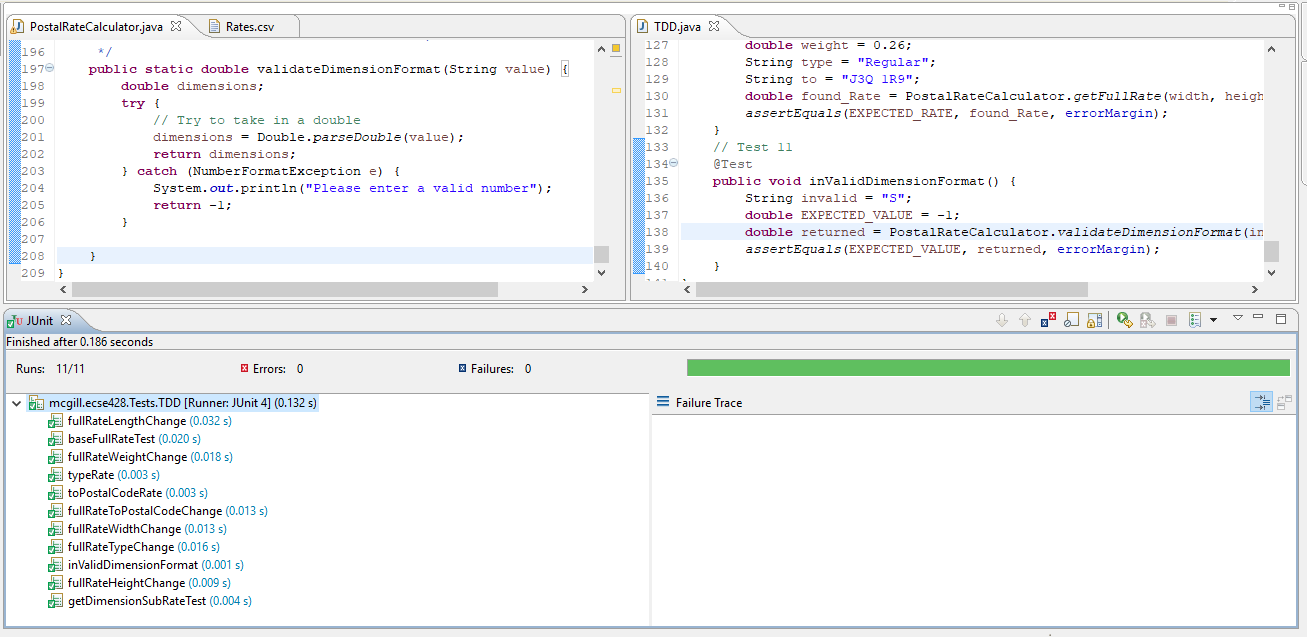
The input is an alphanumeric string. The expected output is a double of value -1 indicating an invalid numeric format.

## Assumptions:

* This test assumes that the input will be in a String format (obtained from the console).

## Failing Screenshot:C:\Users\karim\AppData\Local\Microsoft\Windows\INetCache\Content.Word\Test_11_Fail.png

## Passing Screenshot:



# Test 12: weightOutOfRange

## Purpose:

To verify that the value entered for the ***weight dimension*** is out of range of the values specified in the csv. The ranges are obtained from the csv file itself.

## Inputs and Expected Output:

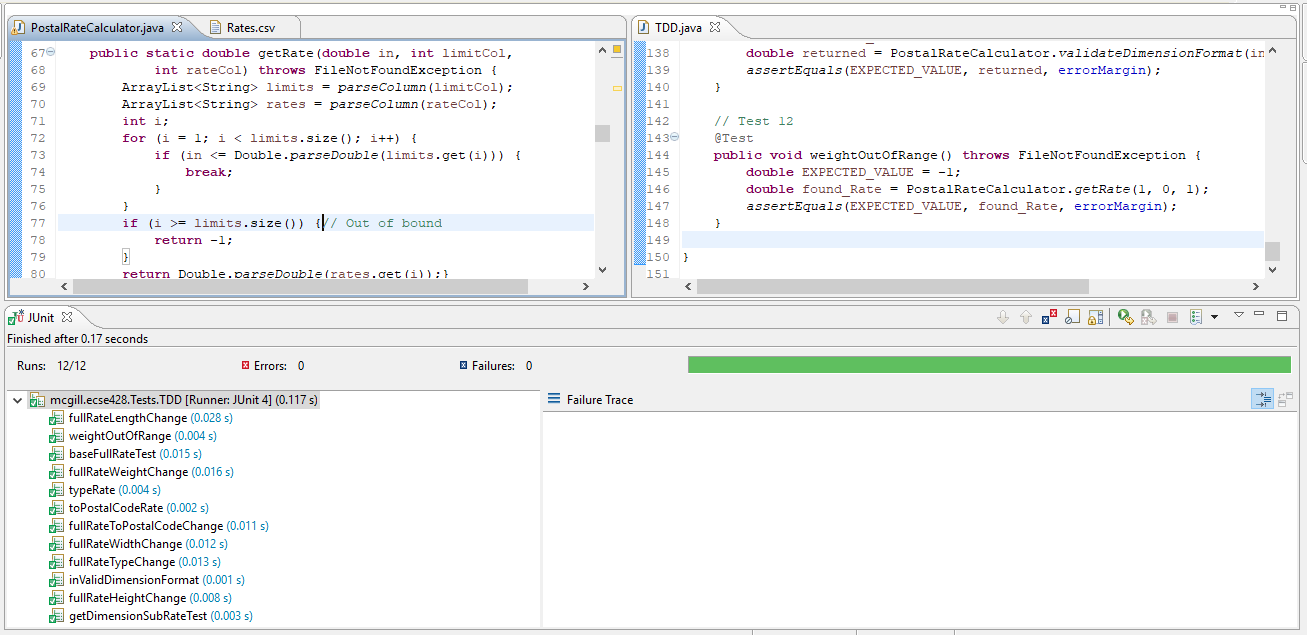
The input is an out of range double (1), and the columns of the weight dimension ranges, and rates. The expected output is a double of value -1 indicating an out of range value for the weight dimension.

## Assumptions:

* The input will be in a String format (obtained from the console).
* The input is verified to be a positive value
* The input is a valid numeric value

## C:\Users\karim\AppData\Local\Microsoft\Windows\INetCache\Content.Word\Test_12_Fail.pngFailing Screenshot:

## Passing Screenshot:



# Test 13: heightOutOfRange

## Purpose:

To verify that the value entered for the ***height dimension*** is out of range of the values specified in the csv. The ranges are obtained from the csv file itself.

## Inputs and Expected Output:

The input is an out of range double (300), and the columns of the height dimension ranges, and rates. The expected output is a double of value -1 indicating an out of range value for the weight dimension.

## Assumptions:

* The input will be in a String format (obtained from the console).
* The input is verified to be a positive value
* The input is a valid numeric value

## Failing Screenshot:

This test passes as it relies on previously tested methods, with no need for any additional logic.

## C:\Users\karim\AppData\Local\Microsoft\Windows\INetCache\Content.Word\Test_13_Pass.pngPassing Screenshot:

# Test 14: lengthOutOfRange

## Purpose:

To verify that the value entered for the ***length dimension*** is out of range of the values specified in the csv. The ranges are obtained from the csv file itself.

## Inputs and Expected Output:

The input is an out of range double (300), and the columns of the length dimension ranges, and rates. The expected output is a double of value -1 indicating an out of range value for the weight dimension.

## Assumptions:

* The input will be in a String format (obtained from the console).
* The input is verified to be a positive value
* The input is a valid numeric value

## Failing Screenshot:

This test passes as it relies on previously tested methods, with no need for any additional logic.

## C:\Users\karim\AppData\Local\Microsoft\Windows\INetCache\Content.Word\Test_14_Pass.pngPassing Screenshot:

# Test 15: widthOutOfRange

## Purpose:

To verify that the value entered for the ***width dimension*** is out of range of the values specified in the csv. The ranges are obtained from the csv file itself.

## Inputs and Expected Output:

The input is an out of range double (300), and the expected output is a double of value -1 indicating an out of range value for the weight dimension.

## Assumptions:

* The input will be in a String format (obtained from the console).
* The input is verified to be a positive value
* The input is a valid numeric value

## Failing Screenshot:

This test passes as it relies on previously tested methods, with no need for any additional logic.

## C:\Users\karim\AppData\Local\Microsoft\Windows\INetCache\Content.Word\Test_15_Pass.pngPassing Screenshot:

# Test 16: invalidType

## Purpose:

## Inputs:

## Assumptions:

## C:\Users\karim\AppData\Local\Microsoft\Windows\INetCache\Content.Word\Test_16_Fail.pngFailing Screenshot:

## C:\Users\karim\AppData\Local\Microsoft\Windows\INetCache\Content.Word\Test_16_Pass.pngPassing Screenshot:

# Test 17: invalidFromPostalCode

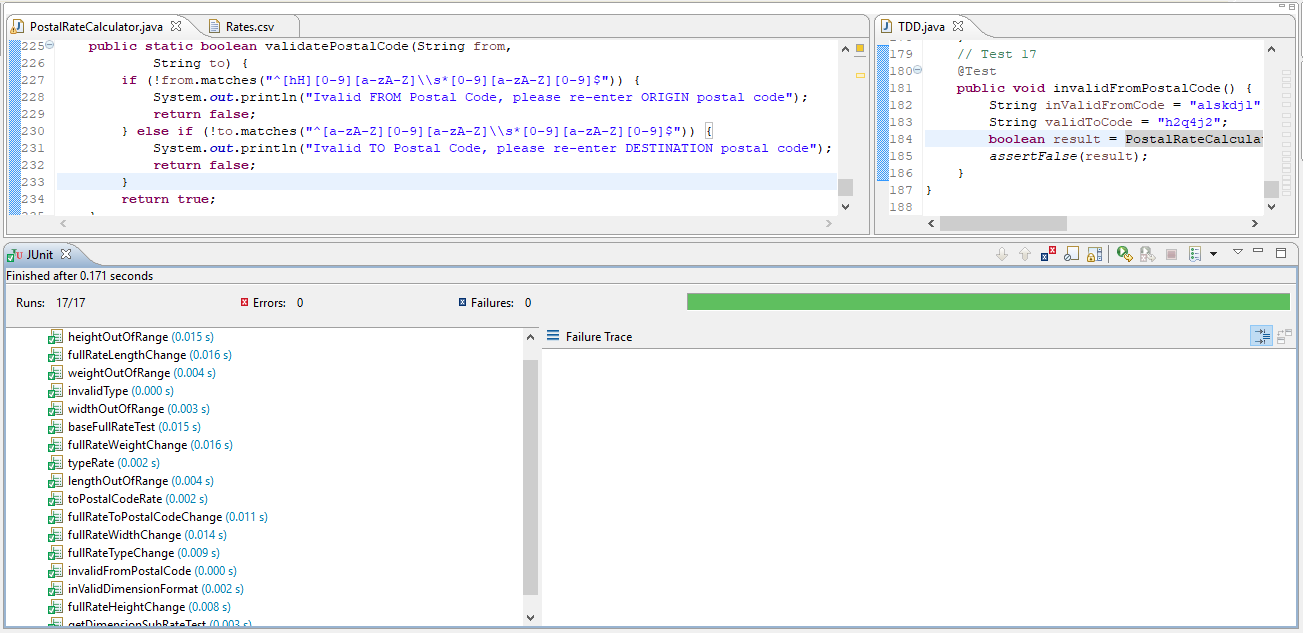
## Purpose:

## Inputs:

## Assumptions:

## C:\Users\karim\AppData\Local\Microsoft\Windows\INetCache\Content.Word\Test_17_Fail.pngFailing Screenshot:

## Passing Screenshot:



# Test 18: invalidToPostalCode

## Purpose:

## Inputs:

## Assumptions:

## Failing Screenshot:

## C:\Users\karim\AppData\Local\Microsoft\Windows\INetCache\Content.Word\Test_18_Pass.pngPassing Screenshot:

# Test 19: negativeDimensions

## Purpose:

## Inputs:

## Assumptions:

## C:\Users\karim\AppData\Local\Microsoft\Windows\INetCache\Content.Word\Test_19_Fail.pngFailing Screenshot:

## C:\Users\karim\AppData\Local\Microsoft\Windows\INetCache\Content.Word\Test_19_Pass.pngPassing Screenshot: