**File Number Reader**

**Unit Test Cases Analysis**

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# **Assumption:**

* The project just only supports .txt file.
* The maximum number of rows/ columns in file is 10.
* The project just run on console program and has no UI.
* When there are more than one result (No of line), it will just show the first result.
* When data is empty, it will throw an exception.
* Max digits of the result is 8.

# **Test cases:**

## Read the file and turn into number array:

* Valid file path 🡪 Read file and turn data into array
* File path empty 🡪 Throw exception
* File is not exist 🡪 Error: “No file found”
* File path including space 🡪 Read file and turn data into array
* File’s data including not a number 🡪 Throw exception
* File’s data including empty line 🡪 Read file and turn data into array
* File’s format is not correct 🡪 Throw exception

## Get from array the line has the highest number (and the number):

* Happy case 🡪 Return the highest value and the line number.
* Input is empty 🡪 value=0; line=0;
* Input including member(s) have more than 8 digits 🡪 Throw exception
* Input including negative number(s) 🡪 Throw exception
* Input including float number(s) 🡪 Throw exception
* Input has number of rows (or columns) greater than 10 🡪 Throw exception
* Input has multiple highest numbers in multiple lines 🡪 return the first No of line

## Get from array the line has the lowest number (and the number):

* Happy case 🡪 Return the lowest value and the line number.
* Input is empty 🡪 value=0; line=0;
* Input including member(s) have more than 8 digits 🡪 Throw exception
* Input including negative number(s) 🡪 Throw exception
* Input including float number(s) 🡪 Throw exception
* Input has number of rows (or columns) greater than 10 🡪 Throw exception
* Input has multiple results in multiple lines 🡪 return the first No of line

## Get from array the line has the most members (and the number or members):

* Happy case 🡪 Return the highest No of members and the line number.
* Input is empty 🡪 value=0; line=0;
* Input including member(s) have more than 8 digits 🡪 Throw exception
* Input including negative number(s) 🡪 Throw exception
* Input including float number(s) 🡪 Throw exception
* Input has number of rows (or columns) greater than 10 🡪 Throw exception
* Input has multiple results in multiple lines 🡪 return the first No of line

## Get from array average value of a line (and the number of line):

* Happy case 🡪 Return the average value and the line number.
* Input array is empty 🡪 Throw exception
* Input including member(s) have more than 8 digits 🡪 Throw exception
* Input including negative number(s) 🡪 Throw exception
* Input including float number(s) 🡪 Throw exception
* Input has number of rows (or columns) greater than 10 🡪 Throw exception
* Number of line is bigger than array length 🡪 Throw exception

## Get from array sum of a line (and the number of line):

* Happy case 🡪 Return the sum and the line number.
* Input is empty 🡪 Throw exception
* Input including member(s) have more than 8 digits 🡪 Throw exception
* Input including negative number(s) 🡪 Throw exception
* Input including float number(s) 🡪 Throw exception
* Sum has more than 8 digits 🡪 Throw exception
* Input has number of rows (or columns) greater than 10 🡪 Throw exception
* Number of line is bigger than array length 🡪 Throw exception