Laboratory work #4 | Strings

Lab objectives

As a result of this laboratory work you will know how to work with Strings in Java:

- declare and initialize string variables;
- use methods of the class String.

Instructions

Write a program, containing three parts:

1. Reading data from the file, specified as command line argument; data represented as text written in English.
2. Performing given operations on data
3. Printing the results

Text represented as number of lines having words or numbers separated with spaces or special characters such as period, comma, colon, semicolon, question mark, exclamation mark, quote mark and so on (consider them as non-word, non-number and non-space characters). Each period character, question mark or exclamation mark denotes the end of the sentence.

Use command line arguments to specify input file.

Use IDE completion and/or documentation about String type to discover its methods, that are helpful during this task accomplishment.

Variants

#	**Description**
1	Reverse the order of sentences.
2	Read a word from standard input, select sentences having that word.
3	Reverse the order of words inside the sentences.
4	Count words of length less than 5.
5	Select parts of text, each between two different quote marks.
6	Find the longest word in the text; count, how many times it is represented in the text.
7	Select sentences ending with question mark, then select sentences ending with exclamation mark.
8	Reverse order of words in each sentence.
9	Select sentences in the order of special characters count growth.
10	Select sentences in the order of first word length growth.

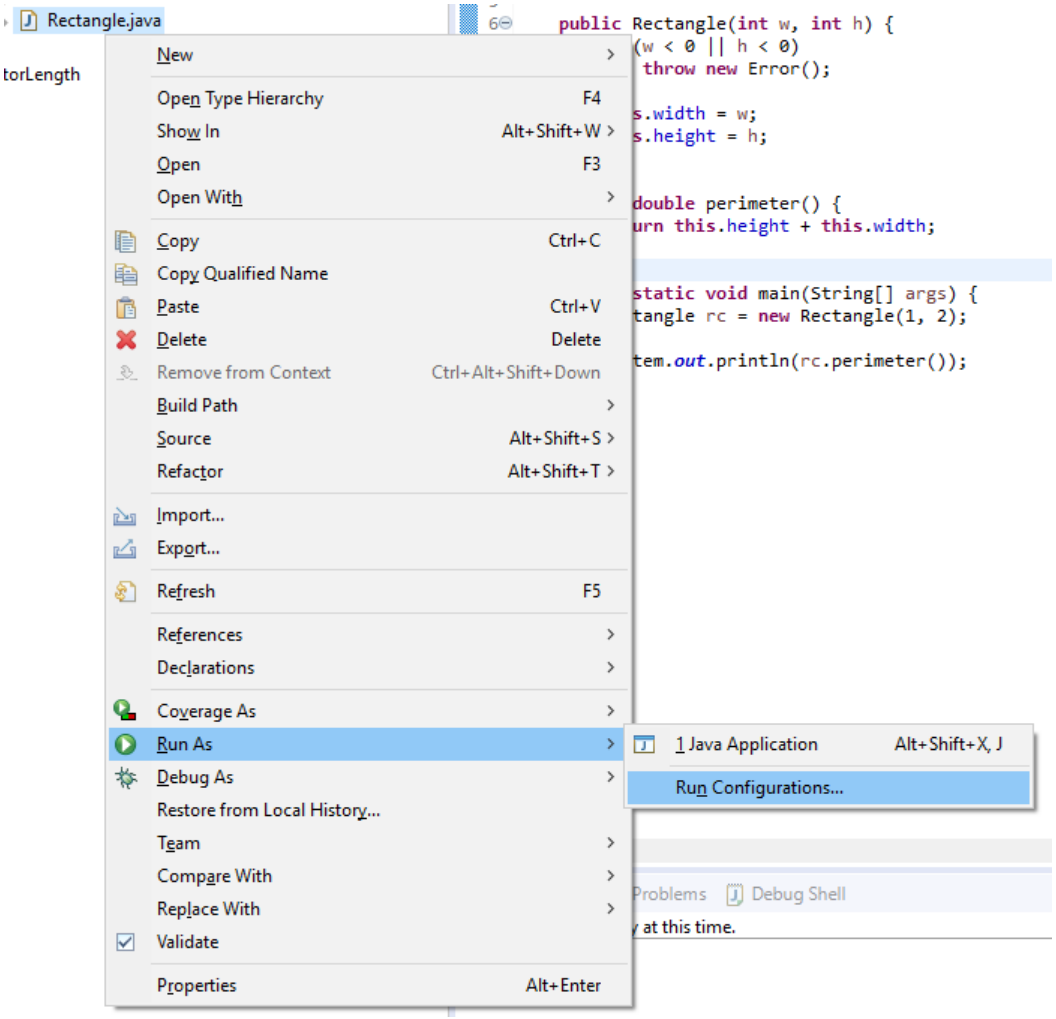
Example implementation

Descriptions of the task: replace each first letter of a character to the upper-case, if the word starts with vowel letter.

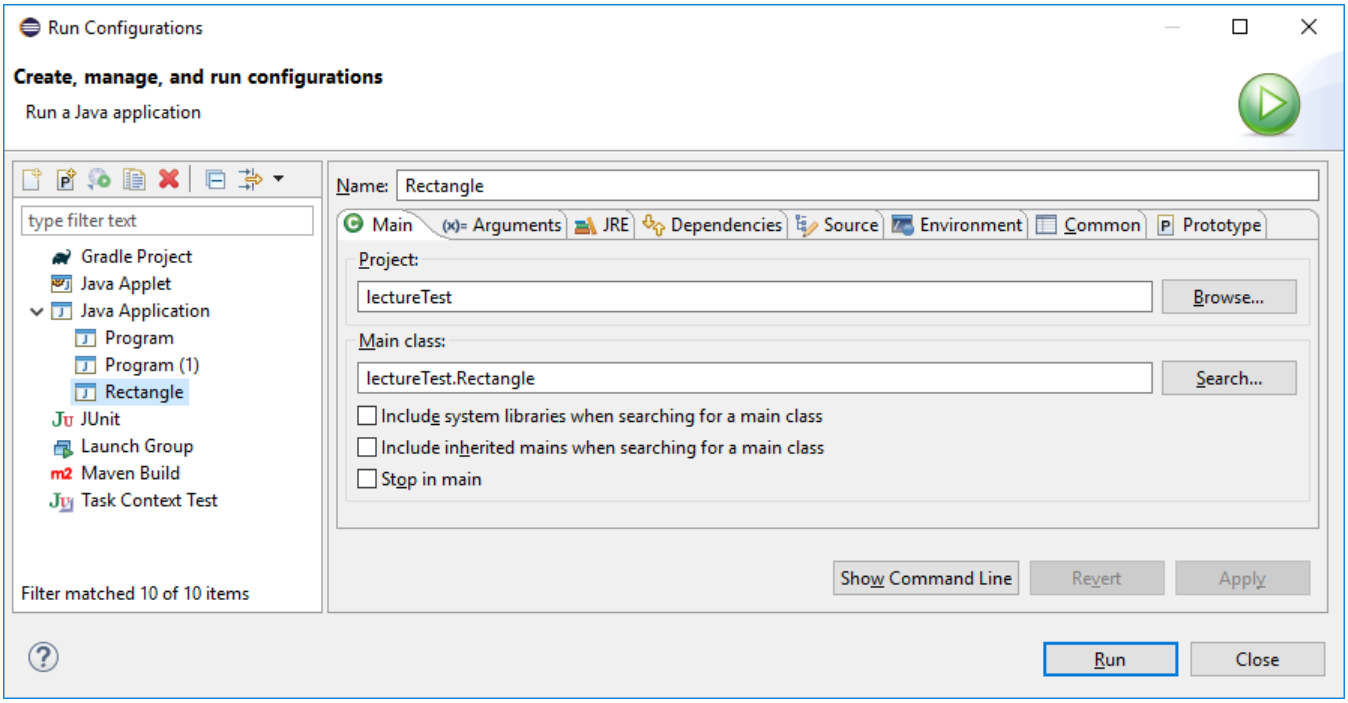
```
import java.io.BufferedReader;
import java.io.File;
import java.io.FileNotFoundException;
import java.io.FileReader;
import java.io.IOException;

public class HelloWorld {
	public static boolean isCharVowel(char ch) {
		return ch == 'a' || ch == 'e' || ch == 'u'
			|| ch == 'i' || ch == 'o' || ch == 'y';
	}
	public static void main(String[] args) {
		String path = line[0];

		File file = new File(path);
		FileReader fr = null;
		try {
			fr = new FileReader(file);

		} catch (FileNotFoundException e) {
			e.printStackTrace();
		}
		BufferedReader br = new BufferedReader(fr);
		String line;
		try {
			while((line = br.readLine()) != null){
				for (String str : line.split(" ")) {
				char c = str.charAt(0);
				String toPrint = str;
				if (isCharVowel(c)) {
					toPrint = String.valueOf(c).toUpperCase() +
str.substring(1);
				}
				System.out.print(toPrint + " ");
			}
			}
		} catch (IOException e) {
			e.printStackTrace();
		}
	}
}
```

How to specify command line arguments for run and debug in IDE

Use corresponding command of the menu of the program class to specify run or debug configuration:



Choose correct configuration with the name of your class having main function. Create one if it does not exists yet.



Specify your command line argument using corresponding tab.