Lab 8a (5 points)

Create a java program that accepts the input of a string from a user. The class will feature a method, isVowel, that accepts a single char as its formal parameter list and returns true if the character is a vowel (a,e,i,o,u) and false if it is not. The main method will call the isVowel method using each character in the string as an actual parameter and report the number of vowels in the string.

|  |  |  |  |
| --- | --- | --- | --- |
| Input | Expected Vowels | Actual Vowels | Reasons if Different |
| This is a test | 4 | 4 | None |
| aeiou | 5 | 5 | None |
| aaaeeebbbggg | 6 | 6 | None |

Evaluation:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Aspect | Objectives substantially met  90 – 100% | Meets Minimal Requirements  80-89% | Needs Improvement  79 – 79% | Failure to Meet Requirements  0 - 69% |
| Good Programming Practices  10% | Effective use of white space.  Clear and appropriate documentation.  Implements all needed error handling.  Data types and identifiers meet all expectations. | Use of white space and documentation with minor defect. Implementation of error handling general but lacking in minor aspects.  Selection of data types and / or creation of identifiers not consistent. | Generally meets expectations for good programming practices. | In the main does not meet expectations for good programming practices. |
| Iterative structures  10% | Iterative structure appropriate to the processing needed including validation of all inputs | Iterative structure appropriate to the processing needed but validates only some inputs | Iteration for processing appropriate but input validation not performed | Iteration not used |
| Modularization  40% | Methods properly declared with an appropriate parameter list and provide appropriate return.  Method calls pass parameters correctly | Minor defects in definition of methods or the passing of parameters or return invalid, | Needs improvement in method declaration, method calls, return statements or parameter passing | Fails to properly modularize the algorithm or parameter lists not according to specs or specified return not made |
| Accuracy of Output  40% | All output correct and supported with appropriate testing. | With minor exceptions the output is correct and testing may be missing some needed test cases. | Only part of the output is correct as a result of inadequate test cases. | Only some of the output is correct as a result of missing or misused test cases. |