Project 8a

Create a class that reads from a file that holds 12 real numbers. The numbers represent the amount of rainfall in inches for each of the 12 months last year. The first token in the file represents January’s rainfall, the second token represents February’s rainfall and so on. Store the names of the months in an array of strings. Store the rainfall amounts in a parallel array of real numbers. The program should determine and display:

1. The total rainfall for the year
2. The average rainfall per month
3. The month with the highest rainfall amount
4. The month with the lowest rainfall amount

You may choose to create a method to perform each of the determinations.

Evaluation:

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| 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. Uses length attribute of the arrays to control processing | Iterative structure appropriate to the processing needed but loop control sometimes hard coded | Iterative structures not optimal and all loop control values hard coded | Iteration not used |
| Use of Arrays | All arrays properly declared and array elements consistently referenced by loop counter | Minor defects in array declaration and some array elements referenced by hard coded indexes | Arrays of inappropriate types and all element indexes hard coded | Arrays not incorportated |
| Algorithm Accuracy | All output correct and application supports specifications | Output exhibits some defect from form specified and / or application only supports most of specifications | Output exhibits major variance from specifications / only partially fulfills specifications | Application majorly fails to fulfill specifications |