DELIVERABLE 2

Software Engineering Process

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Problem 4

0.1 KEYPOINTS

1. Program follows Memento design pattern. This allows the program to go back to one previous state and helps emulate a real calculator.

2. The User Interface is exposed as a command line interface.

3. Thorough user testing has been done and all the exceptions have been handled to ensure smooth running of the program.

0.2 DEBUGGER

The Eclipse IDE is used for the development of this program and the in-built eclipse debugger has been used to fix any issues that arose during development and testing.

Advantages :

1. Easy integration with the eclipse IDE

2. Offers a proper view(called perspective in eclipse) for debugging the code.

3. Multiple features are nicely integrated in a single tool

4. Provides good support across multiple threads.

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Disadvantages :

1. Always requires an additional plugin or software to add small features to the IDE.

2. Too many plugins clutter the screen. Thus making it hard to debug and view the code at the same time.

0.3 QUALITY

- Correct : Output checked against pre-computed values to verify the correctness of the program.

- Efficient : The program runs efficiently. Output is generated in the order of milliseconds.

- Maintainable : The core logic, error handling and user interactions have been properly modularized. This makes it easy to maintain the code and also add new features.

- Usable : The program exposes a very simple and clean text based User Interface to the user. Also, the results and the error messages are clear in conveying their meaning to the user.

0.4   Code Quality

CheckStyle is a tool that checks whether the source code conforms to a defined coding style. This tool may help in improving the readability of the document.

Advantages

1. Easy integration with Eclipse IDE

2. Performs well

3. Makes it possible to configure user defined rules

4. Defined rules can be applied selectively

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Disadvantages

1. Limited to only code beautification. No logic checks present.

2. Does not check any design issues in the code.

REPOSITORY

GitHub URL : https://github.com/SidhantGupta92/soen-6011-40059256/

REFERENCES

[1]. [Wikipedia] URL: https://en.wikipedia.org/wiki/Debugger

[2]. [Math on Web] URL: http://mathonweb.com

[3]. [Checkstyle] URL: https://checkstyle.org/eclipse-cs/