

Influence of unit testing on software maintenance.

This study aims to investigate the influence of unit tests on software maintenance activities. For this, each participant will be presented to a workspace having a class and its test, which will be failing. The participant must then first analyze the code and identify the maintenance activity necessary to obtain the green bar (the test passes), fix the class being tested (codefix) or the test class (testfix). After identifying the activity to be performed, the participant must perform and submit their correction. Finally, the participant will answer the questionnaire about their perception of the activity performed.

* Required

1. Endereço de e-mail *

2. Select the workspace used in the activity. *

Mark only one oval.

- ☐ FixedOrderComparator_c *Skip to question 3*
- ☐ FixedOrderComparator_cs *Skip to question 3*
- ☐ FixedOrderComparator_cr *Skip to question 3*
- ☐ FixedOrderComparator_t *Skip to question 4*
- ☐ FixedOrderComparator_ts *Skip to question 4*
- ☐ FixedOrderComparator_tr *Skip to question 4*
- ☐ ListPopulation_c *Skip to question 3*
- ☐ ListPopulation_cs *Skip to question 3*
- ☐ ListPopulation_cr *Skip to question 3*
- ☐ ListPopulation_t *Skip to question 4*
- ☐ ListPopulation_ts *Skip to question 4*
- ☐ ListPopulation_tr *Skip to question 4*
- ☐ ComparatorChain_c *Skip to question 3*
- ☐ ComparatorChain_cs *Skip to question 3*
- ☐ ComparatorChain_cr *Skip to question 3*
- ☐ ComparatorChain_t *Skip to question 4*
- ☐ ComparatorChain_ts *Skip to question 4*
- ☐ ComparatorChain_tr *Skip to question 4*

In this first task, you must analyze the class and test suite and identify what maintenance activity is needed to get the green bar (make the test suite pass), fix the class (codefix) or fix the test suite (testfix) .

The project name prefix represents the name of the class to be analyzed (FixedOrderComparator, ListPopulation, ComparatorChain)

When deciding which activity should be performed, click "Submit" again and answer the question below to proceed and confirm which activity should be performed.

3. What task must you perform for the test to pass? *

Mark only one oval.

☐ Codefix

☐ Testfix

Skip to section 5 (Codefix)

In this first task, you must analyze the class and test suite and identify what maintenance activity is needed to get the green bar (make the test suite pass), fix the class (codefix) or fix the test suite (testfix) .

The project name prefix represents the name of the class to be analyzed (FixedOrderComparator, ListPopulation, ComparatorChain)

When deciding which activity should be performed, click "Submit" again and answer the question below to proceed and confirm which activity should be performed.

4. What task must you perform for the test to pass? *

Mark only one oval.

☐ Codefix *Skip to section 6 (Testfix)*

☐ Testfix *Skip to section 6 (Testfix)*

Skip to section 6 (Testfix)

Codefix

The next step now is to carry out the correction.

In this project there is a fault in the class being tested (FixedOrderComparator, ListPopulation, or ComparatorChain).

You must perform the codefix in this class and at the end proceed to the quiz about the activity.

Skip to question 5

Testfix

The next step now is to carry out the correction.

In this project there is a shortage in the test suite.

You must take the testfix in this suite and at the end proceed to the quiz about the activity.

Skip to question 14

User perception

5. The task was clear. *

Mark only one oval.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neither
- ☐ Agree
- ☐ Strongly agree

6. I had enough time to finish the task. *

Mark only one oval.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neither
- ☐ Agree
- ☐ Strongly agree

7. It was easy to identify the bug. *

Mark only one oval.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neither
- ☐ Agree
- ☐ Strongly agree

8. It was easy to fix the bug. *

Mark only one oval.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neither
- ☐ Agree
- ☐ Strongly agree

9. I am certain my fix is correct. *

Mark only one oval.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neither
- ☐ Agree
- ☐ Strongly agree

10. The class was easy to understand. *

Mark only one oval.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neither
- ☐ Agree
- ☐ Strongly agree

11. The unit test was easy to understand. *

Mark only one oval.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neither
- ☐ Agree
- ☐ Strongly agree

12. The test suite was helpful in correcting the class. *

Mark only one oval.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neither
- ☐ Agree
- ☐ Strongly agree

13. Which of the following items do you believe contributes the most to the activity performed? *

Check all that apply.

- ☐ Class Documentation
- ☐ Test suite readability
- ☐ Test Cases Names

Other: ☐ _____

User perception

14. The task was clear. *

Mark only one oval.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neither
- ☐ Agree
- ☐ Strongly Agree

15. I had enough time to finish the task. *

Mark only one oval.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neither
- ☐ Agree
- ☐ Strongly Agree

16. It was easy to identify the bug. *

Mark only one oval.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neither
- ☐ Agree
- ☐ Strongly Agree

17. It was easy to fix the bug. *

Mark only one oval.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neither
- ☐ Agree
- ☐ Strongly Agree

18. I am certain my fix is correct. *

Mark only one oval.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neither
- ☐ Agree
- ☐ Strongly Agree

19. The class was easy to understand. *

Mark only one oval.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neither
- ☐ Agree
- ☐ Strongly Agree

20. The unit test was easy to understand. *

Mark only one oval.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neither
- ☐ Agree
- ☐ Strongly Agree

21. I am certain I produced a good solution for the test suite. *

Mark only one oval.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neither
- ☐ Agree
- ☐ Strongly Agree

22. Which of the following items do you believe contributes the most to the activity performed? *

Check all that apply.

- ☐ Class Documentation
- ☐ Test suite readability
- ☐ Test Cases Names

Other: ☐ _____

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