

# 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.

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\* Required

## 1. Email \*

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Open the eclipse, and analyze the code to identify which activity should be performed. Identify an activity to be performed and answer the following questions.

2. Select the workspace used in the activity. \*

*Mark only one oval.*

- |  |                    |
|--|--------------------|
| <input type="radio"/> workspace_comparators_11     | Skip to question 4 |
| <input type="radio"/> workspace_comparators_23     | Skip to question 4 |
| <input type="radio"/> workspace_comparators_42     | Skip to question 3 |
| <input type="radio"/> workspace_comparators_55     | Skip to question 3 |
| <input type="radio"/> workspace_comparators_68     | Skip to question 4 |
| <input type="radio"/> workspace_comparators_71     | Skip to question 3 |
| <input type="radio"/> workspace_listpopulation_11  | Skip to question 4 |
| <input type="radio"/> workspace_listpopulation_23  | Skip to question 4 |
| <input type="radio"/> workspace_listpopulation_42  | Skip to question 3 |
| <input type="radio"/> workspace_listpopulation_55  | Skip to question 3 |
| <input type="radio"/> workspace_listpopulation_68  | Skip to question 4 |
| <input type="radio"/> workspace_listpopulation_71  | Skip to question 3 |
| <input type="radio"/> workspace_comparatorchain_11 | Skip to question 4 |
| <input type="radio"/> workspace_comparatorchain_23 | Skip to question 4 |
| <input type="radio"/> workspace_comparatorchain_42 | Skip to question 3 |
| <input type="radio"/> workspace_comparatorchain_55 | Skip to question 3 |
| <input type="radio"/> workspace_comparatorchain_68 | Skip to question 4 |
| <input type="radio"/> workspace_comparatorchain_71 | Skip to question 3 |

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

*Mark only one oval.*

- ☐ Codefix
- ☐ Testfix

*Skip to question 5*

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

*Mark only one oval.*

- ☐ Codefix *Skip to question 6*
- ☐ Testfix *Skip to question 6*

*Skip to question 6*

Codefix

There is a lack in the tested code, you must correct it to get the green bar (the tests pass).

5. Perform the codefix and submit your solution. \*

Submit the java file containing your change.

Files submitted:

*Skip to question 7*

Testfix

There is a lack in the tested code, you must correct it to get the green bar (the tests pass).

6. Perform the codefix and submit your solution. \*

Submit the java file containing your change.

Files submitted:

*Skip to question 7*

User perception

7. The task was clear. \*

*Mark only one oval.*

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

8. I had enough time to finish the task. \*

*Mark only one oval.*

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

9. It was easy to identify the bug. \*

*Mark only one oval.*

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

10. It was easy to fix the bug. \*

*Mark only one oval.*

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

11. I am certain my fix is correct. \*

*Mark only one oval.*

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

12. The class was easy to understand. \*

*Mark only one oval.*

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

13. The unit test was easy to understand. \*

*Mark only one oval.*

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

14. I am certain I produced a good fix. \*

*Mark only one oval.*

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

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