# Survey-Post-Eval-Repair

*Required

1. **Your Roll Number** *

2. **The bugs which you had to analyze and fix, approximately what percent of them were:** *

   *Mark only one oval per row.*

| | <25% | 26-50% | 51-75% | 76-100% |
|---|---|---|---|---|
| Trivial | | | | |
| Easy | | | | |
| of Medium Difficulty | | | | |
| Difficult | | | | |

3. **In short, the most common reason for these bug was** *

4. **It would be easy to design a tool which automatically fixes K% of the bugs. In your view, what is the value of K (Approx):** *

   *Mark only one oval.*

| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0% No bug can be fixed easily | | | | | | | | | | | | 100%: All bugs can be fixed easily |

## Time Analysis

5. **AVERAGE time you spent on diagnosing the bugs** *

6. **MAXIMUM time you spent on diagnosing a bug** *

7. **AVERAGE time you spent on FIXING the bugs** *

8. **MAXIMUM time you spent on FIXING a bug** *

9. **What would have helped you spend lesser time on the above activities (Diagnosis/Fix)?** *

## Bug & Fix Characteristics

10. **How do you ensure that the bug has been completely fixed?** *

11. **In the bug "explanation" provided by you in comments box, how confident are you about its correctness?** *

*Mark only one oval.*

| | 1 | 2 | 3 | 4 | 5 | |
|---|---|---|---|---|---|---|
| Less Confidant | ◯ | ◯ | ◯ | ◯ | ◯ | Fully Confident |

12. **In the bug "fix" provided by you in comments box, how confident are you about its correctness?** *

*Mark only one oval.*

| | 1 | 2 | 3 | 4 | 5 | |
|---|---|---|---|---|---|---|
| Less Confidant | ◯ | ◯ | ◯ | ◯ | ◯ | Fully Confident |

13. **Can the root cause of errors be diagnosed with a "push-button" tool (for majority of errors)?** *

*Mark only one oval.*

- ◯ True
- ◯ False

14. **Can the errors be FIXED with a "push-button" tool (majority of errors)?** *

*Mark only one oval.*

- ◯ True
- ◯ False

15. **What, in your opinion, would help the student in fixing these bugs on his/her own? (Apart from compiler messages and test case outputs)** *

_____

_____

_____

_____

_____

## Repair Tool Used

16. **How accurate was the repair produced by the tool?** *

*Mark only one oval per row.*

| | Never | <=25% of the time | <=50% of the time | <=75% of the time | Always |
|---|---|---|---|---|---|
| The repairs were completely wrong | ◯ | ◯ | ◯ | ◯ | ◯ |
| The tool identified the buggy region, but the exact bug could not be identified/fixed | ◯ | ◯ | ◯ | ◯ | ◯ |
| The tool identified the buggy expression, but the fixed suggested was wrong | ◯ | ◯ | ◯ | ◯ | ◯ |
| The tool suggested the perfect repair | ◯ | ◯ | ◯ | ◯ | ◯ |

17. **If the repair produced by the auto tool was not very accurate (Options 1, 2, or 3 above), how helpful was the repair in guiding you to the fix?** *

*Mark only one oval.*

| | 1 | 2 | 3 | 4 | 5 | |
|---|---|---|---|---|---|---|
| Not at all helpful | ◯ | ◯ | ◯ | ◯ | ◯ | Very helpful |

18. **How much did you trust the tool's fault localization? ("location" of the bug reported by the tool)** *

*Mark only one oval.*

| | 1 | 2 | 3 | 4 | 5 | |
|---|---|---|---|---|---|---|
| Not at all | ◯ | ◯ | ◯ | ◯ | ◯ | Very much |

19. **What type of changes you had to perform on top of the suggested fix provided by tool?** *
*Tick all that apply.*

- [ ] Fix constant values
- [ ] Fix operators
- [ ] Fix condition for "if" or loops ("while", "do-while")
- [ ] Fix array indices
- [ ] insert/delete extra characters (For example: ; & brackets)
- [ ] formatting fixes for the output (spaces, tabs, newline, %conversion for printf etc.)
- [ ] Other: _____

20. **Select the categories of the programming constructs for which the fix was generated by the tool** *
*Tick all that apply.*

- [ ] Floating Point operations
- [ ] Array accesses
- [ ] Library Functions
- [ ] User defined functions
- [ ] Missing Char
- [ ] Loops
- [ ] Conditionals (if-then-else)
- [ ] Missing whitespaces in output (space, tab, newline)
- [ ] Missing values in output (other than whitespaces)
- [ ] String modifications
- [ ] Other: _____

## For the submissions where the repair was NOT supplied

21. **Did you try to manually repair the submission to arrive at the grade?** *
*Mark only one oval.*

- ◯ Yes
- ◯ No

22. **Did you have a formula to compute the grade that you could use, if the manual repair could fix the submission?** *
*Mark only one oval.*

- ◯ Yes
- ◯ No

## For the submissions where the repair was supplied

23. **Did the repair help in computing the grade?** *
*Mark only one oval.*

- ◯ Yes
- ◯ No

24. **Did you have a formula to compute the grade where the repair generated by tool could fit in?** *

*Mark only one oval.*

- ◯ Yes
- ◯ No

25. **If you did not use the repair tool output for deciding grade, do you feel that the grading will be unfair if you took the repair tool output into consideration ? Answer: Yes/No/Not Applicable. Try to give example program snippet to substantiate your concerns.** *