Lyra Checker Evaluation

Thank you for agreeing to take part in the user study of my bachelor's project.

* Required

1. **What is your age?** *

2. **What is your field of study?** *

3. **What is your current occupation?**
   Mark only one oval.
   - ◯ Bachelor's student
   - ◯ Master's student
   - ◯ PhD student
   - ◯ Other: _____

4. **On a scale from 1 to 5, how familiar are you with computer programming?** *
   Mark only one oval.

	1	2	3	4	5	
I have never programmed before	◯	◯	◯	◯	◯	I have a strong programmer background

Experiment I: Fixing input data

In this experiment you are presented with a Python program that reads some input data from a file and does some computations on them. Some of the input data is wrong and will cause the program to raise some errors.

We would like you to try to fix the input data so that the program runs without raising errors. You can assume that the program is correct. Please do NOT modify it.

Choose a program to run

To ensure some randomization to the experiment, please choose a program to run based on your month of birth:
January-March: convert
April-June: dna_frequency
July-September: grades
October-December: self_driving_cars

5. **Please select which problem you chose.** *

Mark only one oval.

- ◯ convert
- ◯ dna_frequency
- ◯ grades
- ◯ self_driving_cars

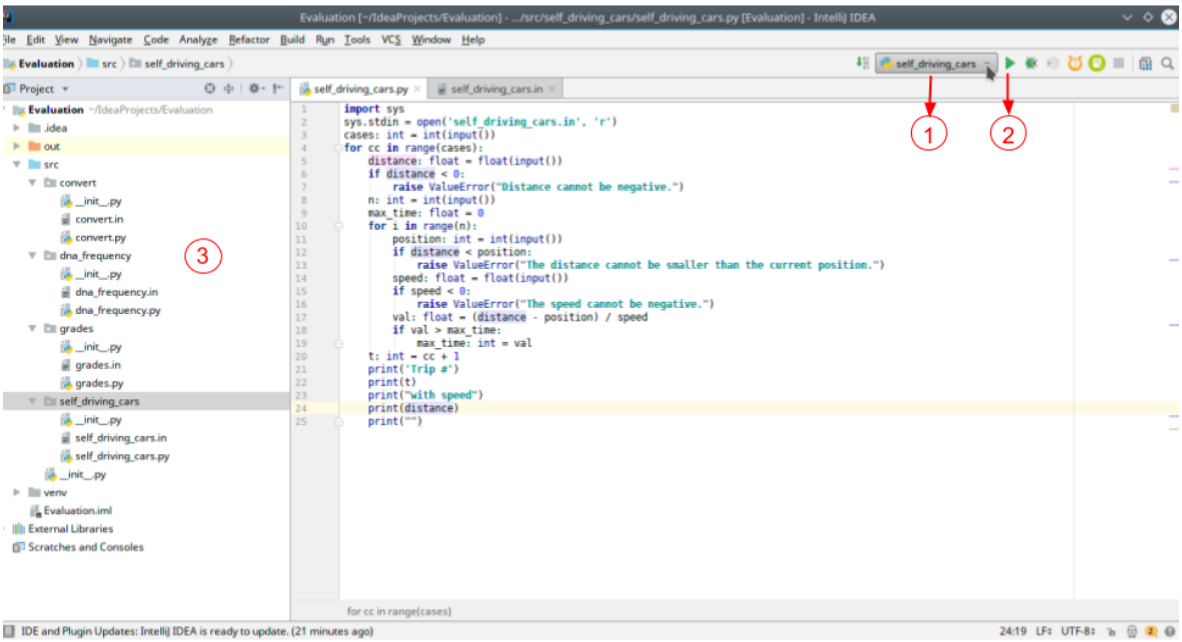
For the experiment to be successful, please read the instructions till the end of this page and the problem descriptions on paper carefully:

1- You will be using IntelliJ IDEA for this experiment. Each program is in a folder along with its input file. For example, the program convert.py reads input from the file convert.in. They both exist in the folder named "convert". You can view the input file data or program code by double-clicking them in the section Labeled 3 in the picture below.

2- To run a program, select its name form the drop down menu (Labeled 1) and click the Run button (Labeled 2).

3- You are given 8 minutes to try to correct as many errors as possible in the input data file of your chosen program.

IMPORTANT NOTE: You are allowed to look at the program code, but not to modify it. You can only add, or modify the lines of the input file, but not delete any of them completely.



Please tell me when you are ready to start.

Please answer these questions after finishing the task:

6. **How many minutes did this experiment take?** *

7. **Were you able to fix all the errors in the input data?** *
Mark only one oval.

- Yes
- No

Please rate how much you agree with the following statements:

8. **I felt frustrated trying to solve this problem** *
Mark only one oval per row.

	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
Rate					

9. **The errors messages printed by the program helped me identify what was wrong with the input** *
Mark only one oval per row.

	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
Rate					

Experiment II: Fixing input data with Lyra Checker

This experiment is similar to the previous one. But now you can use the Lyra Checker tool to help you locate wrong values in the input file.

Choose a program to run

Again, please choose a program to run based on your month of birth:
January-March: self_driving_cars
April-June: grades
July-September: dna_frequency
October-December: convert

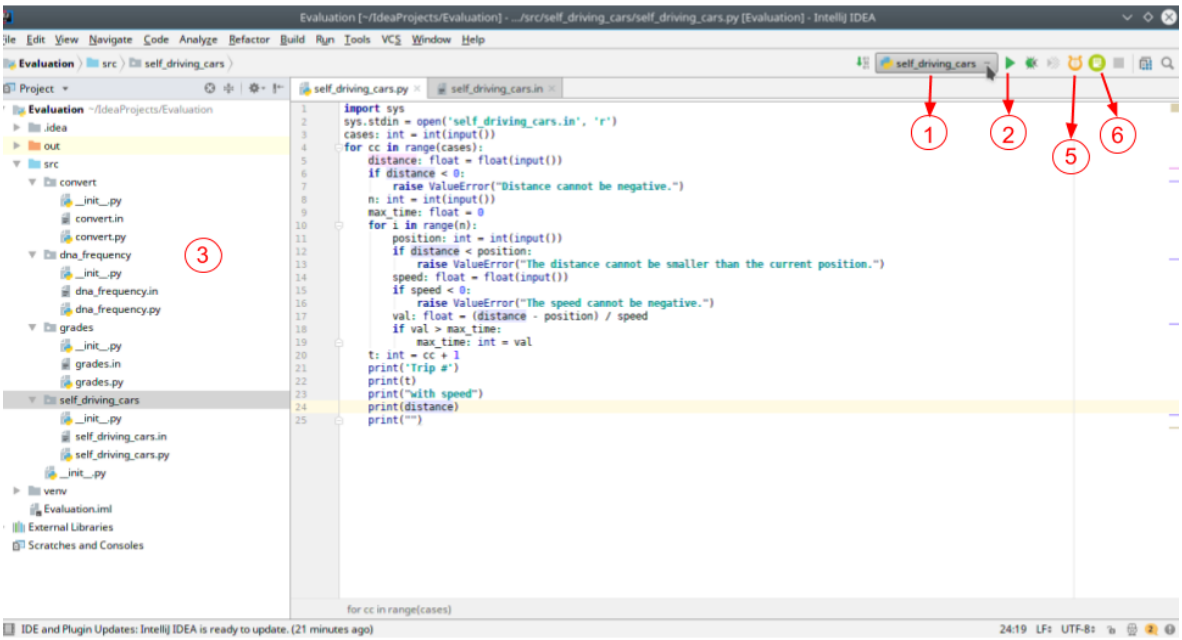
10. **Please select which problem you chose.** *
Mark only one oval.

- convert
- dna_frequency
- grades
- self_driving_cars

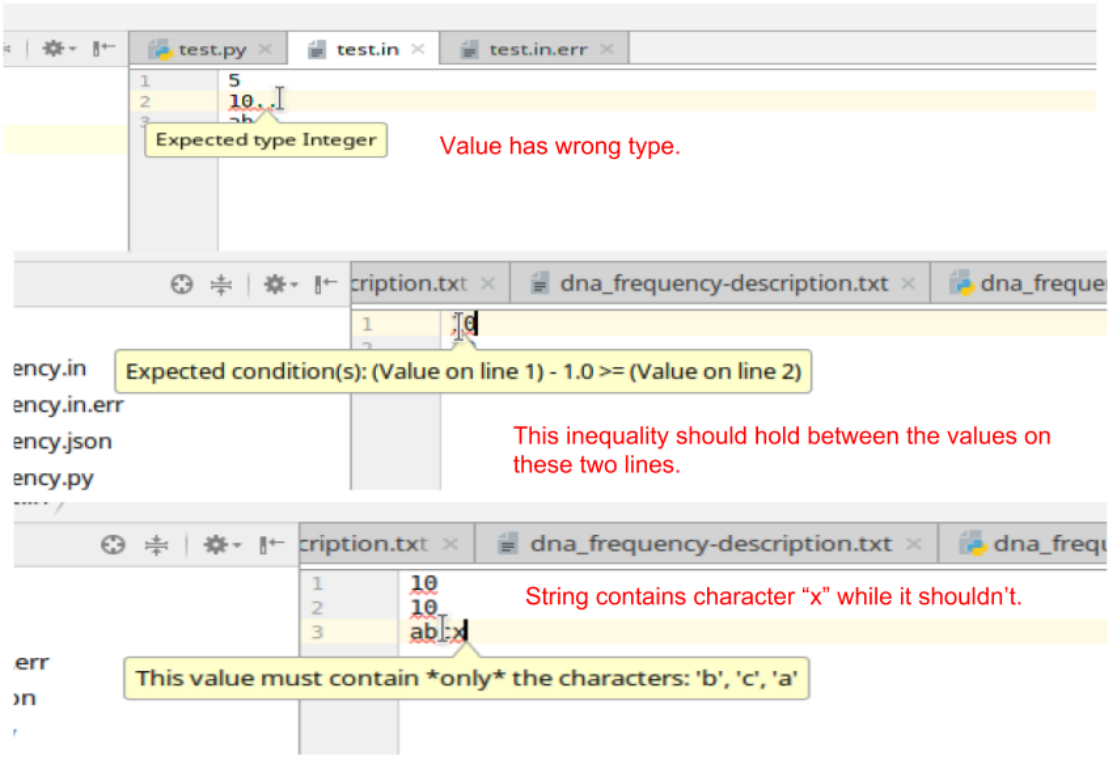
For the experiment to be successful, please read the instructions till the end of this page and the problem descriptions on paper carefully:

1- Choose the program from the drop-down menu labeled 1 in the picture below.
2- Choose the corresponding input file using the green button labeled 6.
3- Click the Lyra icon labeled 5 to run the tool and wait a few seconds.
4- Examine the error messages and try to fix the errors in the file. Note that the error messages will not be updated automatically once you change the data. You have to run the tool again to update them.
5- Repeat steps 3 and 4 until there are no more errors in the file.

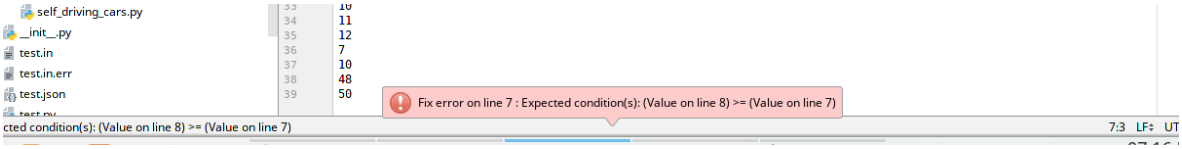
IMPORTANT NOTE: You are allowed to look at the program code, but not to modify it. You can only add, or modify the lines of the input file, but not delete any of them completely.



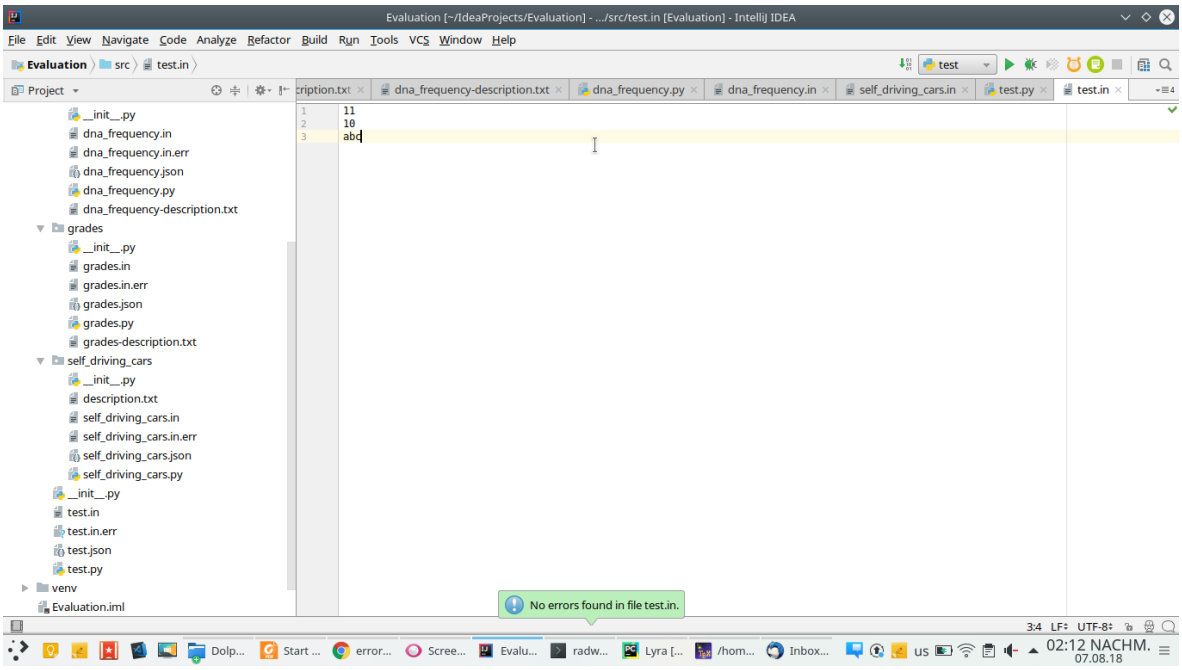
Wrong values are underlined in red in the input file. Hover over the red line to see the error message.



The tool will show a pop-up indicating the first error in the file



When the tool cannot detect any more errors in your input file, it will display a message in a green pop-up like the image below.



Please tell me when you're ready to start the second experiment.

Please answer these questions after finishing the task:

11. **How many minutes did this experiments take? ***

12. **Were you able to fix all the errors in the input file? ***
Mark only one oval.

- ◯ Yes
- ◯ No

13. **Were you able to run the program without raising en error? ***
Mark only one oval.

- ◯ Yes
- ◯ No

Please rate how much you agree with the following statements:

14. **I felt frustrated trying to solve this problem ***
Mark only one oval per row.

	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
Rate	◯	◯	◯	◯	◯

15. **The error messages that appeared in the input file helped me identify what was wrong with the input** *
Mark only one oval per row.

	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
Rate					

16. **I found it easy to run the tool and understand its output** *
Mark only one oval per row.

	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
Rate					

17. **I would prefer to fix errors in the input data using the tool than using program error messages only** *
Mark only one oval per row.

	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
Rate					

General questions

18. **What did you like about this tool?** *

19. **What suggestions would you have to improve this tool?** *