

CHATGPT ANALYSIS RESULTS BASED ON THE BENCHMARK “arepair”

SL	Spec	(1) With fix comment [Asked to satisfy assertion]	(2) With bug location but w/o fix comments [No mention of passing assertion]	(3) No fault location (No Bug / Fix comment and Loc) [Asked to fix assertion]	(4) No indication of bug location nor asking to pass the assertions	(5) With bug location but w/o fix comments [Mention of passing assertion]
1	addr1	Instance found. Predicate is consistent (<u>No counterexample found</u>)	(Counterexample) Instance found.	Type Error Message Observed	(Counterexample) Instance found.	Instance found. Predicate is consistent (<u>No counterexample found</u>)
2	arr1	(Counterexample) Instance found. (Manual verification and ChatGPT Results)	No instance found. Predicate may be inconsistent (No counterexample found)	Type Error Message Observed	Type Error Message Observed	Instance found. Predicate is consistent (<u>No counterexample found</u>) (Compilation Warning Given)
3	arr2	Instance found. Predicate is consistent (<u>No counterexample found</u>)	Instance found. Predicate is consistent (<u>No counterexample found</u>)	Type Error Message Observed	Type Error Message Observed	No instance found. Predicate may be inconsistent (No counterexample found)
4	balancedBST1	Instance found. Predicate is consistent (<u>No counterexample found</u>)	(Counterexample) Instance found.	Instance found. Predicate is consistent (<u>No counterexample found</u>)	(Counterexample) Instance found.	Type Error Message Observed
5	balancedBST2_1	Instance found. Predicate is consistent (<u>No counterexample found</u>)	Instance found. Predicate is consistent (<u>No counterexample found</u>)	Type Error Message Observed	(Counterexample) Instance found.	(Counterexample) Instance found.

6	balancedBST2_2	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent (No counterexample found)	Type Error Message Observed	(Counterexample) Instance found.	(Counterexample) Instance found.
7	balancedBST2_3	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent (No counterexample found)	(Counterexample) Instance found.	Syntax Error The name "abs" cannot be found.
8	balancedBST3_1	Instance found. Predicate is consistent (No counterexample found)	(Counterexample) Instance found.	Instance found. Predicate is consistent (No counterexample found)	(Counterexample) Instance found.	(Counterexample) Instance found.
9	balancedBST3_2	(Counterexample) Instance found. (Manual verification and ChatGPT Results)	(Counterexample) Instance found.	Instance found. Predicate is consistent (No counterexample found)	(Counterexample) Instance found.	Instance found. Predicate is consistent (No counterexample found)
10	bempl1	(Counterexample) Instance found. (Manual verification and ChatGPT Results)	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent (No counterexample found)	Syntax error at line 17 column 8: There are 1 possible tokens that can appear here:[]
11	cd1_1	(Counterexample) Instance found. (Manual verification and ChatGPT Results)	(Counterexample) Instance found.	Instance found. Predicate is consistent (No counterexample found)	(Counterexample) Instance found.	Instance found. Predicate is consistent (No counterexample found)
12	cd1_2	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent (No counterexample found)	(Counterexample) Instance found.	Type Error Message Observed
13	cd2	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent (No counterexample found)	(Counterexample) Instance found.	Instance found. Predicate is consistent (No counterexample found)

14	ctree1	<p>Syntax Error in the result provided by ChatGPT (In first result)</p> <p>Instance found. Predicate is consistent (No counterexample found) (By Manual verification)</p>	<p>Type Error Message Observed</p>	<p>Instance found. Predicate is consistent (No counterexample found)</p>	<p>(Counterexample) Instance found.</p>	<p>Instance found. Predicate is consistent (No counterexample found)</p>
15	dll1_1	<p>Instance found. Predicate is consistent (No counterexample found)</p>	<p>Instance found. Predicate is consistent (No counterexample found)</p>	<p>Instance found. Predicate is consistent (No counterexample found)</p>	<p>(Counterexample) Instance found.</p>	<p>Instance found. Predicate is consistent (No counterexample found)</p>
16	dll1_2	<p>Instance found. Predicate is consistent (No counterexample found)</p>	<p>(Counterexample) Instance found.</p>	<p>(Counterexample) Instance found.</p>	<p>(Counterexample) Instance found.</p>	<p>Syntax error The name "null" cannot be found.</p>
17	dll2_1	<p>Instance found. Predicate is consistent (No counterexample found)</p>	<p>Instance found. Predicate is consistent (No counterexample found)</p>	<p>(Counterexample) Instance found.</p>	<p>(Counterexample) Instance found.</p>	<p>(Counterexample) Instance found.</p>
18	dll2_2	<p>Instance found. Predicate is consistent (No counterexample found) (ChatGPT provided wrong result)</p>	<p>(Counterexample) Instance found.</p>	<p>Instance found. Predicate is consistent (No counterexample found)</p>	<p>(Counterexample) Instance found.</p>	<p>Syntax error at line 33 column 32:</p>
19	dll3_1	<p>Instance found. Predicate is consistent (No counterexample found)</p>	<p>Instance found. Predicate is consistent (No counterexample found)</p>	<p>Instance found. Predicate is consistent (No counterexample found)</p>	<p>(Counterexample) Instance found.</p>	<p>(Counterexample) Instance found.</p>
20	dll3_2	<p>(Counterexample) Instance found. (Manual verification and ChatGPT Results)</p>	<p>Instance found. Predicate is consistent (No counterexample found)</p>	<p>Instance found. Predicate is consistent (No counterexample found)</p>	<p>(Counterexample) Instance found.</p>	<p>(Counterexample) Instance found.</p>
21	dll3_3	<p>Instance found. Predicate is consistent (No counterexample found)</p>	<p>Instance found. Predicate is consistent (No counterexample found)</p>	<p>Instance found. Predicate is consistent (No counterexample found)</p>	<p>(Counterexample) Instance found.</p>	<p>Instance found. Predicate is consistent (No counterexample found)</p>
22	dll4	<p>Instance found. Predicate is consistent</p>	<p>Instance found. Predicate is consistent (No counterexample found)</p>	<p>Instance found. Predicate is consistent (No counterexample found)</p>	<p>(Counterexample) Instance found.</p>	<p>(Counterexample) Instance found.</p>

23	farmer1	Instance found. Predicate is consistent (No counterexample found)	(Counterexample) Instance found. Predicate is consistent	(Counterexample) Instance found. Predicate is consistent	(Counterexample) Instance found. Predicate is consistent	Syntax Error The name "item" cannot be found.
24	fsm1_1	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent (No counterexample found)	No instance found. Predicate may be inconsistent (No counterexample found)	(Counterexample) Instance found. Predicate is consistent	(Counterexample) Instance found.
25	fsm1_2	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent (No counterexample found)	No instance found. Predicate may be inconsistent (No counterexample found)	No instance found. Predicate may be inconsistent (No counterexample found)	Syntax error at line 46 column 1:
26	fsm2	Instance found. Predicate is consistent (No counterexample found)	No instance found. Predicate may be inconsistent (No counterexample found)	No instance found. Predicate may be inconsistent (No counterexample found)	(Counterexample) Instance found.	No instance found. Predicate may be inconsistent (No counterexample found)
27	grade1	Instance found. Predicate is consistent (No counterexample found)	(Counterexample) Instance found.	Instance found. Predicate is consistent (No counterexample found)	(Counterexample) Instance found.	(Counterexample) Instance found.
28	other1	Instance found. Predicate is consistent (No counterexample found)	(Counterexample) Instance found.	(Counterexample) Instance found.	Instance found. Predicate is consistent (No counterexample found)	(Counterexample) Instance found.

29	student1	Instance found. Predicate is consistent (No counterexample found) <i>(ChatGPT provided wrong result)</i>	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent (No counterexample found)	(Counterexample) Instance found.	Instance found. Predicate is consistent (No counterexample found)
30	student2_1	(Counterexample) Instance found. <i>(Manual verification and ChatGPT Results)</i>	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent (No counterexample found)
31	student2_2	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent (No counterexample found)	(Counterexample) Instance found.	Type Error Message Observed
32	student3_1	Instance found. Predicate is consistent	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent (No counterexample found)	(Counterexample) Instance found.	(Counterexample) Instance found.
33	student3_2	(Counterexample) Instance found. <i>(Manual verification and ChatGPT Results)</i>	(Counterexample) Instance found.	Instance found. Predicate is consistent (No counterexample found)	(Counterexample) Instance found.	(Counterexample) Instance found.
34	student4	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent (No counterexample found)	(Counterexample) Instance found.	Type Error Message Observed
35	student5	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent (No counterexample found)	(Counterexample) Instance found.	(Counterexample) Instance found.

36	student6_1	Instance found. Predicate is consistent (No counterexample found) <i>(ChatGPT provided wrong result)</i>	(Counterexample) Instance found.	Instance found. Predicate is consistent (No counterexample found)	(Counterexample) Instance found.	Type Error Message Observed
37	student6_2	(Counterexample) Instance found. <i>(Manual verification and ChatGPT Results)</i>	(Counterexample) Instance found.	Instance found. Predicate is consistent (No counterexample found)	(Counterexample) Instance found.	(Counterexample) Instance found.
38	student7_1	Instance found. Predicate is consistent (No counterexample found) <i>(ChatGPT provided wrong result)</i>	(Counterexample) Instance found.	Instance found. Predicate is consistent (No counterexample found)	(Counterexample) Instance found.	(Counterexample) Instance found.
39	student7_2	Instance found. Predicate is consistent (No counterexample found)	(Counterexample) Instance found.	Type Error Message Observed	(Counterexample) Instance found.	Type Error Message Observed
40	student8	Instance found. Predicate is consistent (No counterexample found)	(Counterexample) Instance found.	Instance found. Predicate is consistent (No counterexample found)	(Counterexample) Instance found.	Type Error Message Observed
41	student9	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent (No counterexample found)	Type Error Message Observed	(Counterexample) Instance found.	(Counterexample) Instance found.
42	student10	Instance found. Predicate is consistent (No counterexample found) <i>(ChatGPT provided wrong result)</i>	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent (No counterexample found)	(Counterexample) Instance found.	Instance found. Predicate is consistent (No counterexample found)
43	student11	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent (No counterexample found)	(Counterexample) Instance found.	(Counterexample) Instance found.
44	student12_1	Instance found. Predicate is consistent (No counterexample found)	Type Error Message Observed	Instance found. Predicate is consistent (No counterexample found)	(Counterexample) Instance found.	Type Error Message Observed

45	student12_2	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent (No counterexample found)	(Counterexample) Instance found.	(Counterexample) Instance found.
46	student13	Instance found. Predicate is consistent (No counterexample found)	(Counterexample) Instance found.	Instance found. Predicate is consistent (No counterexample found)	(Counterexample) Instance found.	(Counterexample) Instance found.
47	student14_1	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent (No counterexample found)	(Warning displayed) Instance found. Predicate is consistent	(Counterexample) Instance found.	Type Error Message Observed
48	student14_2	Instance found. Predicate is consistent (No counterexample found)	(Counterexample) Instance found.	Instance found. Predicate is consistent (No counterexample found)	(Counterexample) Instance found.	(Counterexample) Instance found.
49	student15	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent (No counterexample found)	(Warning displayed) Instance found. Predicate is consistent	(Counterexample) Instance found.	(Counterexample) Instance found.
50	student16	Instance found. Predicate is consistent (No counterexample found)	(Counterexample) Instance found.	Instance found. Predicate is consistent (No counterexample found)	(Counterexample) Instance found.	Syntax error at line 45 column 18: There are 1 possible tokens that can appear here:
51	student17_1	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent (No counterexample found)	(Counterexample) Instance found.	Syntax error at line 20 column 15: There are 1 possible tokens that can appear here:
52	student17_2	Instance found. Predicate is consistent (No counterexample found)	(Counterexample) Instance found.	Instance found. Predicate is consistent (No counterexample found)	(Counterexample) Instance found.	(Counterexample) Instance found.

53	student18_1	Instance found. Predicate is consistent (<u>No counterexample found</u>)	(Counterexample) Instance found.	(Counterexample) Instance found.	(Counterexample) Instance found.	(Counterexample) Instance found.
54	student18_2	Instance found. Predicate is consistent (<u>No counterexample found</u>)	(Counterexample) Instance found.	(Counterexample) Instance found.	(Counterexample) Instance found.	(Counterexample) Instance found.
55	student18_3	Instance found. Predicate is consistent (<u>No counterexample found</u>)	Type Error Message Observed	(Counterexample) Instance found.	Instance found. Predicate is consistent (<u>No counterexample found</u>)	Instance found. Predicate is consistent (<u>No counterexample found</u>)
56	student19_1	Instance found. Predicate is consistent (<u>No counterexample found</u>)	(Counterexample) Instance found.	(Counterexample) Instance found.	(Counterexample) Instance found.	Instance found. Predicate is consistent (<u>No counterexample found</u>)
57	student19_2	Instance found. Predicate is consistent (<u>No counterexample found</u>)	(Counterexample) Instance found.	(Counterexample) Instance found.	(Counterexample) Instance found.	Type Error Message Observed