

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
1	addr1	Instance found. Predicate is consistent (No counterexample found)	(Counterexample) Instance found.	Type Error Message Observed	Counterexample) Instance found.
2	arr1	(Counterexample) Instance found.	No instance found. Predicate may be inconsistent	Type Error Message Observed	Type Error Message Observed
3	arr2	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent (No counterexample found)	Type Error Message Observed	Type Error Message Observed
4	balancedBST1	Instance found. Predicate is consistent (No counterexample found)	(Counterexample) Instance found.	Instance found. Predicate is consistent	Counterexample) Instance found.
5	balancedBST2_1	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent (No counterexample found)	Type Error Message Observed	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.
7	balancedBST2_3	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent	Counterexample) Instance found.
8	balancedBST3_1	Instance found. Predicate is consistent (No counterexample found)	(Counterexample) Instance found.	Instance found. Predicate is consistent	Counterexample) Instance found.
9	balancedBST3_2	(Counterexample) Instance found.	(Counterexample) Instance found.	Instance found. Predicate is consistent	Counterexample) Instance found.

10	bempl1	(Counterexample) Instance found.	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent	Instance found. Predicate is consistent
11	cd1_1	(Counterexample) Instance found.	(Counterexample) Instance found.	Instance found. Predicate is consistent	(Counterexample) Instance 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	(Counterexample) Instance found.
13	cd2	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent	(Counterexample) Instance found.
14	ctree1	(Counterexample) Instance found.	Type Error Message Observed	Instance found. Predicate is consistent	(Counterexample) Instance found.
15	dll1_1	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent	(Counterexample) Instance found.
16	dll1_2	(Counterexample) Instance found.	Instance found. Predicate is consistent (No counterexample found)	(Counterexample) Instance found.	(Counterexample) Instance found.
17	dll2_1	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent (No counterexample found)	(Counterexample) Instance found.	(Counterexample) Instance found.
18	dll2_2	(Counterexample) Instance found.	(Counterexample) Instance found.	Instance found. Predicate is consistent	(Counterexample) Instance found.
19	dll3_1	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent	Instance found. Predicate is consistent	(Counterexample) Instance found.
20	dll3_2	(Counterexample) Instance found.	Instance found. Predicate is consistent	Instance found. Predicate is consistent	(Counterexample) Instance found.
21	dll3_3	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent	(Counterexample) Instance found.
22	dll4	Instance found. Predicate is consistent	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent	(Counterexample) Instance found.
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

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	(Counterexample) Instance found. Predicate is consistent
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 instance found. Predicate may be inconsistent
26	fsm2	Instance found. Predicate is consistent (No counterexample found)	No instance found. Predicate may be inconsistent	No instance found. Predicate may be inconsistent	Counterexample) Instance found.
27	grade1	Instance found. Predicate is consistent (No counterexample found)	(Counterexample) Instance found.	Instance found. Predicate is consistent	Counterexample) Instance found.
28	other1	Instance found. Predicate is consistent (No counterexample found)	(Counterexample) Instance found.	(Counterexample) Instance found.	Instance found. Predicate is consistent
29	student1	(Counterexample) Instance found.	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent	Counterexample) Instance found.
30	student2_1	(Counterexample) Instance found.	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent	Instance found. Predicate is consistent
31	student2_2	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent	Counterexample) Instance found.
32	student3_1	Instance found. Predicate is consistent	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent	Counterexample) Instance found.
33	student3_2	(Counterexample) Instance found. Compilation warning given	(Counterexample) Instance found.	Instance found. Predicate is consistent	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	Counterexample) Instance found.
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.
36	student6_1	(Counterexample) Instance found.	(Counterexample) Instance found.	Instance found. Predicate is consistent	Counterexample) Instance found.

37	student6_2	(Counterexample) Instance found.	(Counterexample) Instance found.	Instance found. Predicate is consistent	Counterexample) Instance found.
38	student7_1	(Counterexample) Instance found.	(Counterexample) Instance found.	Instance found. Predicate is consistent	Counterexample) Instance found.
39	student7_2	Instance found. Predicate is consistent (No counterexample found)	(Counterexample) Instance found.	Type Error Message Observed	Counterexample) Instance found.
40	student8	Instance found. Predicate is consistent (No counterexample found)	(Counterexample) Instance found.	Instance found. Predicate is consistent (No counterexample found)	Counterexample) Instance found.
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.
42	student10	(Counterexample) Instance found.	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent	Counterexample) Instance found.
43	student11	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent	Counterexample) Instance found.
44	student12_1	Instance found. Predicate is consistent (No counterexample found)	Type Error Message Observed	Instance found. Predicate is consistent	Counterexample) Instance found.
45	student12_2	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent	Counterexample) Instance found.
46	student13	Instance found. Predicate is consistent (No counterexample found)	(Counterexample) Instance found.	Instance found. Predicate is consistent	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.

48	student14_2	Instance found. Predicate is consistent (No counterexample found)	(Counterexample) Instance found.	Instance found. Predicate is consistent	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.
50	student16	Instance found. Predicate is consistent (No counterexample found)	(Counterexample) Instance found.	Instance found. Predicate is consistent	Counterexample) Instance found.
51	student17_1	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent (No counterexample found)	Instance found. Predicate is consistent	Counterexample) Instance found.
52	student17_2	Instance found. Predicate is consistent (No counterexample found)	(Counterexample) Instance found.	Instance found. Predicate is consistent	Counterexample) Instance found.
53	student18_1	Instance found. Predicate is consistent (No counterexample found)	Counterexample) Instance found.	Counterexample) Instance found.	Counterexample) Instance found.
54	student18_2	Instance found. Predicate is consistent (No counterexample found)	Counterexample) Instance found.	Counterexample) Instance found.	Counterexample) Instance found.
55	student18_3	Instance found. Predicate is consistent (No counterexample found)	Type Error Message Observed	Counterexample) Instance found.	Instance found. Predicate is consistent
56	student19_1	Instance found. Predicate is consistent (No counterexample found)	Counterexample) Instance found.	Counterexample) Instance found.	Counterexample) Instance found.
57	student19_2	Instance found. Predicate is consistent (No counterexample found)	Counterexample) Instance found.	Counterexample) Instance found.	Counterexample) Instance found.