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CM 2403

OK 4.
a) 76 ms + 138 ms = 214 ms
b) 32 ms + 84 ms = 116 ms
c) Warning: Alloy4 defaults to SAT4J since it is pure Java and very reliable.

OK 5.
a) Viz, Tree, and XML
b) 8
c) The most recent one
d)
1) The size of the type scopes specified in the command. The difficulty of the analysis increases with scope in a quicker than linear fashion
2) The SAT solver used. By default, the SAT4J solver is used. However, other solvers may fare better in specific models. The SAT solver may changed by clicking the Options menu.

OK 9.
a) addr
b) Each one has 1 field

OK 10.
There is 1 book available

OK 11.
a) The 3 specifies a scope that bounds the search for instances: in this case, to at most three objects in each signature.
b) The 1 signifies that book is limited to 1 object.

OK 12.
a) Each example has one addr relation in it
b) This says that each address is mapped to more than one name.

OK 13.
lone

OK 16.
By replacing n with Name, we are telling Alloy to instead of looking up a single name n in address book b, look up the entire set of names.

18.
Nope not even a little. :(

OK 20.
a) There are 2 run commands now
b) run show for 3 but 1 book
run add for 3 but 2 book

21.

OK The items in the parentheses show what object is bound to what operations.

OK 22.

a) This has the same effect as the first one because = doesn't do assignment in predicates
b) = Does not do assignment in predicates

24.

OK a) : set Addr says to set Addr to the result of the function
b) In a function the body is an expression rather than a constraint.

25.

There are only two distinct states in this scenario. b and b', the values of the book in the first and second states, are both pointing to Addr

(-2) It results in a state where a book after an add then del can have fewer contacts than the original

OK 26.

It restricts the claim to when no entry already exists for the name n:

OK 27.

a) 81 ms + 1 ms = 82 ms
b) 331 ms + 33 ms = 364 ms