

Solution notes

Four possibilities for the three sentences are as follows
(Two "for", Two "against") :

1. If a compiler accepts a program, Then at run-time the program will never perform nonsense, such as applying an integer as though it were a function.
2. Under the same condition, if the result type of a program is "int list", Then if the program terminates its result will indeed be an integer.
3. Even if a program is well-typed, if it is supposed to produce the sum of a list of integers (say) it may in fact produce some other value (though it will be an integer).
4. The type system of a programming language offers no protection against a faulty compiler or faulty run-time system.