

# Can programming language influence correctness?

- Languages affect the way we think about problems:

*"The tools we use have a profound (and devious) influence on our thinking habits, and, therefore on our thinking abilities?"*

Dijkstra, 1982

- Additional experimental evidence:
  - C130J software written in a variety of languages by a variety of vendors.
  - All certified to DO-178B standards (FAA).
  - Then subjected to a major IV&V exercise by the MoD
    - Significant, safety-related errors found in Level A certified software
    - Residual error rate of Ada code on aircraft was one tenth that of code written in C.
    - Residual error rate of SPARK code (Ada subset) one tenth that of the Ada code.