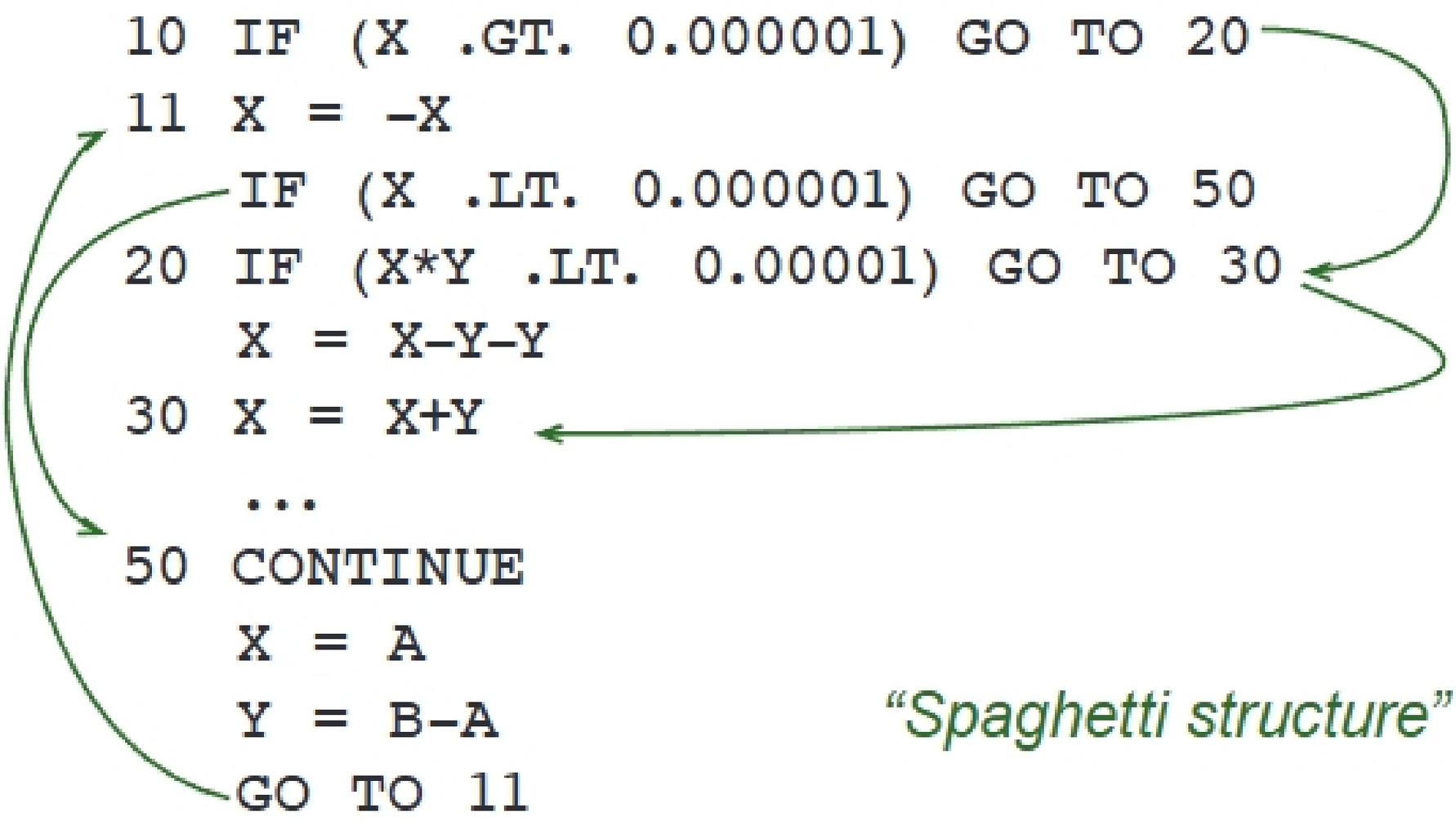
Control in Sequential Languages

- Structured Programming
  - Go to considered harmful
- Exceptions
  - "structured" jumps that may return a value
  - dynamic scoping of exception handler
- Continuations
  - Function representing the rest of the program
  - Generalized form of tail recursion
- Functions and evaluation order
  - Control evaluation order using function definitions and calls

Fortran Control Structure



"Spaghetti structure"

Similar structure may occur in assembly code

Historical debate

- E. Dijkstra, "Go To Statement Considered Harmful"
  - Letter to Editor, *Communications of the ACM*, March 1968
- Knuth, "Structured Programming with Go To Statements"
  - *Computing Surveys*, Dec. 1974
  - You can use goto, but do so in structured way …
- General questions
  - Do syntactic rules force good programming style?
  - Can they help?