Structured Programming

Lead to a proof of a-program-is-right

- Any program can be constructed from just 3 structures
  - Sequence, Selection and Iteration
- Functional decomposition
  - Decomposition of a program into a set of small **provable** functions recursively
  - Restrain or forbid ‘goto’ statement

Structured Programming
Prove the program to be RIGHT

- Mathematical Approach
  - Discipline of proving provable statements true
  - Use Euclidean hierarchy of theorems in the proof
    - Dijkstra tried at 1960s, but couldn’t make it
- Scientific Approach
  - Discipline of proving provable statements false
    - Falsifiable but not provable - show correctness by failing to prove incorrectness
  - The rescue is **TEST**
    - Use tests to prove those small provable functions incorrect