Structured Programming

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What is structured programming?

- Concerned with using module functions or sub-programs
- Each function has a speciality
- The main program/function has very little code - simply calls other functions

Why use structured programming?

- Debugging - can test small components instead of a giant program all at once
- Maintainability - easy to add new features, others can help, others can understand
- Reuse - can use functions in other programs - reduce repetition

Algorithms

- A logical sequence of steps that describes in detail the process used to solve a given problem
- Similar to a flow chart or diagram
- First come up with a plan before trying to blindly write code

Key Idea

You should be able to give the algorithm to any programmer, without any astrodynamics or engineering background, and they should be able to write your program

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Examples

- Write a structured algorithm to read in from a file a series of x, y pairs for 2D vectors. Compute the magnitude of each and print to an output file
- You must have a algorithm for the main program and any sub functions