



Why and How to Write Clean Code

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**U.S. DEPARTMENT OF
ENERGY**

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Agenda

Benefits of
Writing Clean
Code

Conductor
Function

Helper
Functions

Helper Function
Trade-Offs

Global Variables
and Their Trade-
Offs

Documentation



Benefits of Writing Clean Code



Easier reading is easier debugging



Others can help or be recruited



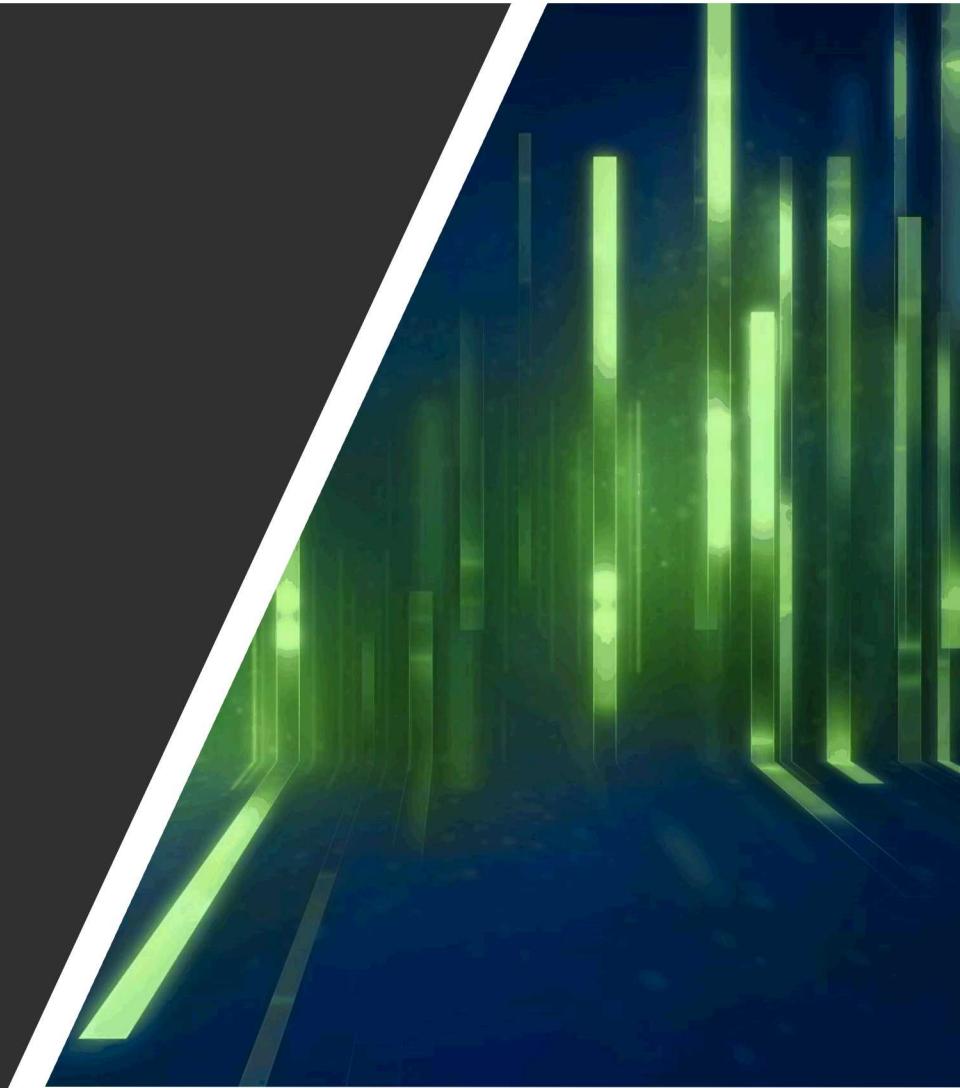
More likely to be reused or expanded on by a colleague



Lower learning curve



SAVES THE COMPANY MONEY!



Conductor Function



PROGRAM'S ENTRY POINT
IS A FUNCTION



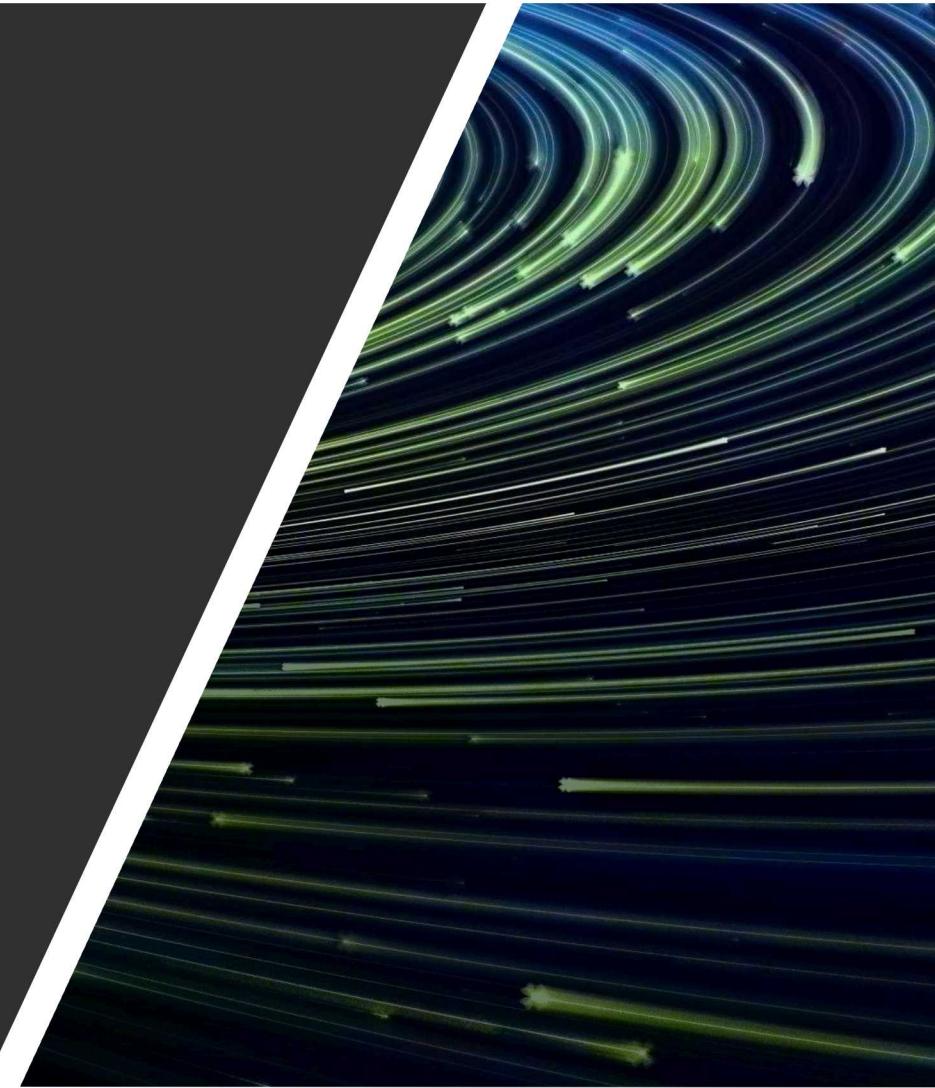
THIS FUNCTION SHOULD
CONTROL THE "FLOW" OF
THE PROGRAM



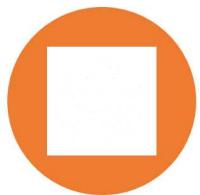
CALL HELPER FUNCTIONS
TO ACCOMPLISH
INDIVIDUAL TASKS



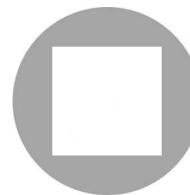
PROPER FUNCTION
NAMES WILL MAKE THE
CONDUCTOR READ LIKE A
SENTENCE



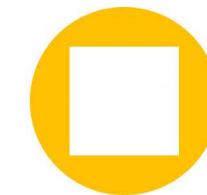
Helper Functions



Should serve a purpose
or action



When writing stay away
from global variable
when reasonable



May include multiple
actions depending on
complexity of code

Helper Functions Trade-Offs



Program is easier to follow assuming good function names



Can save memory by not duplicating written code



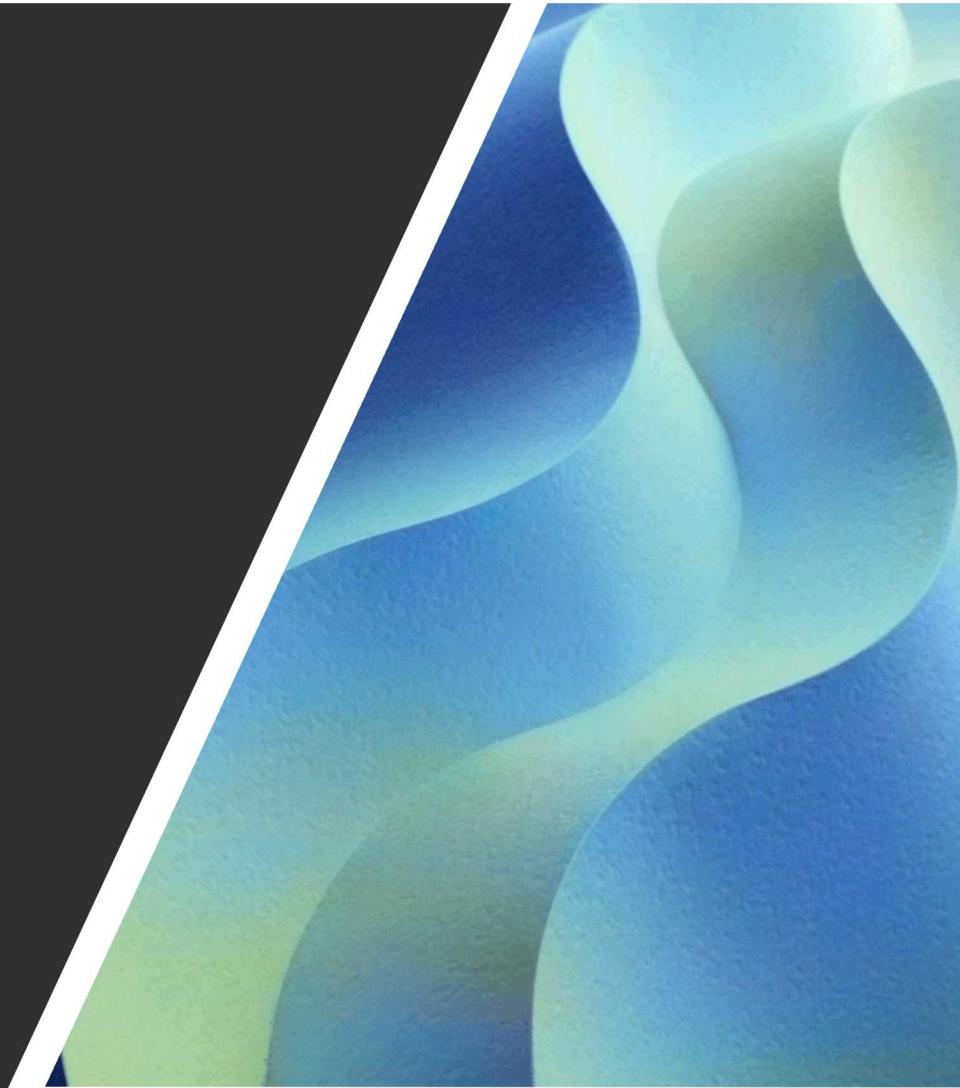
May add time to the program running



Can make the code more complicated in multi-stage pipelines



Generally a good practice for high level programming, not always for real time programming



Global Variables



MAKES WRITING CODE
EASIER IF ALL VARIABLES
ARE GLOBAL



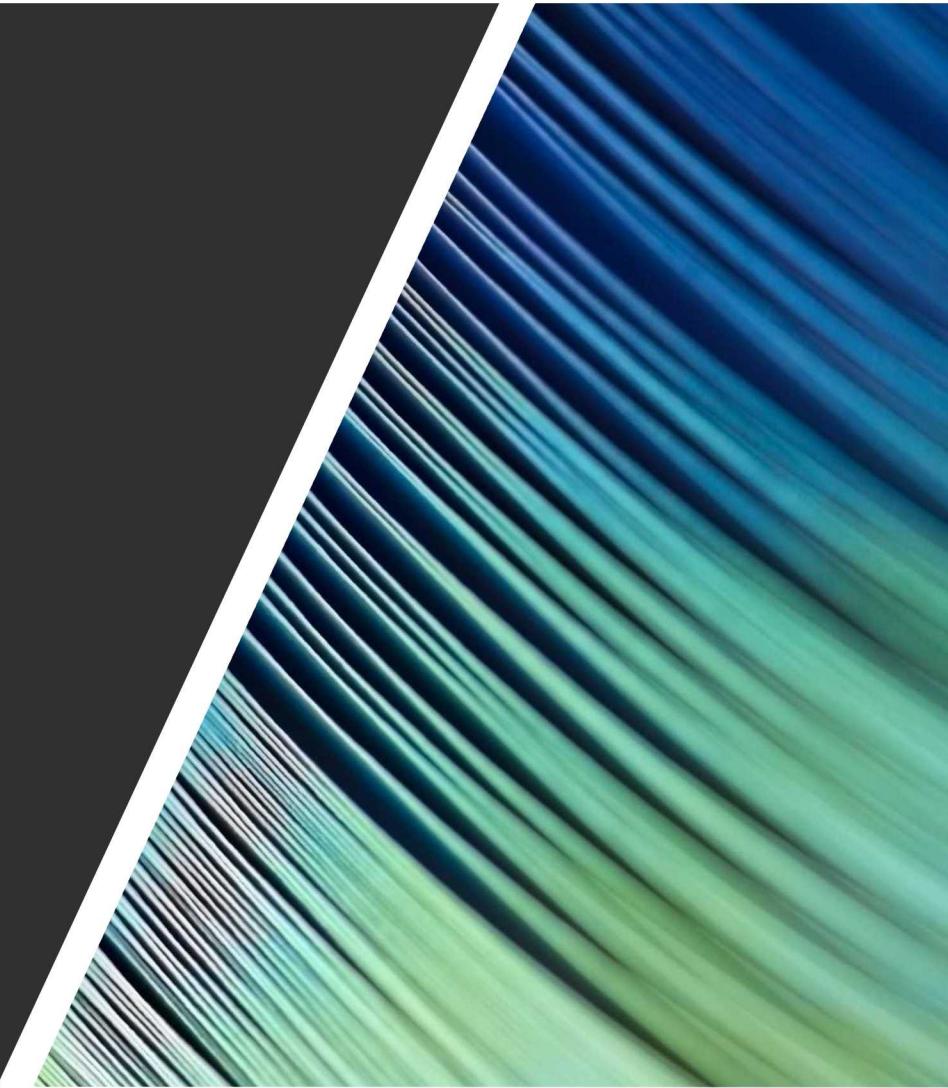
TAKES DISK MEMORY



LONGER ACCESS TIME



POSSIBILITY OF
CONFUSION BETWEEN
FILES



Documentation

Helps understand the code

Provides specifications

Suggestions:

- Do not give away implementation details
- Tell overview
- List inputs and outputs
- Document each function and each file

Conclusion



MAKING A MORE
WORTHWHILE
PRODUCT



SAVING MONEY



BEING ABLE TO
RECRUIT OTHERS
INTO THE PROJECT



