

# Problem Solving

## MODULES & FUNCTION COHESION & COUPLING

by

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# Chapter Description

- Aims

- A

- Expected Outcomes

- Explain the need for structured programming
- Explain the design of modules and functions, in terms of **cohesion** and **coupling**.

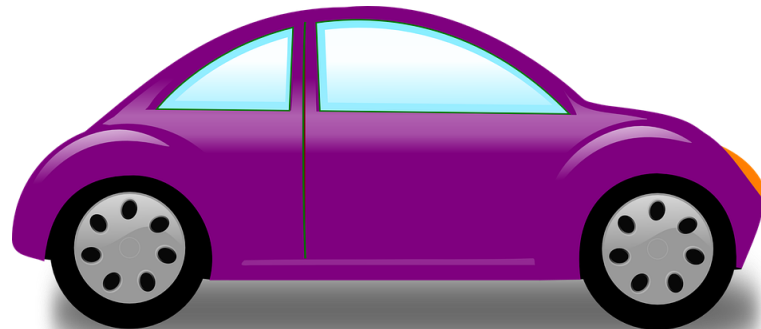
- References

- Sprankle, M., and Hubbard, J., (2012). Problem Solving and Programming Concepts : 9th Edition. Prentice Hall, 2012. ISBN : 0132492644



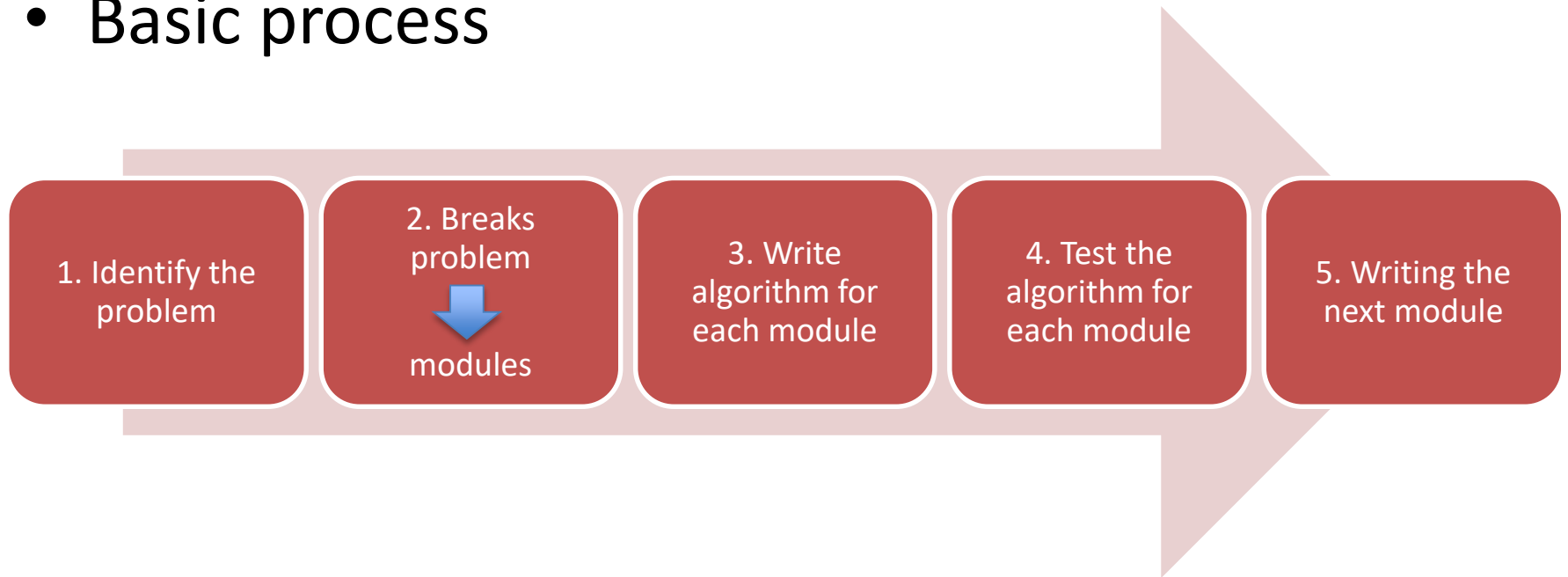
# Modules and Functions

## Designing a car model



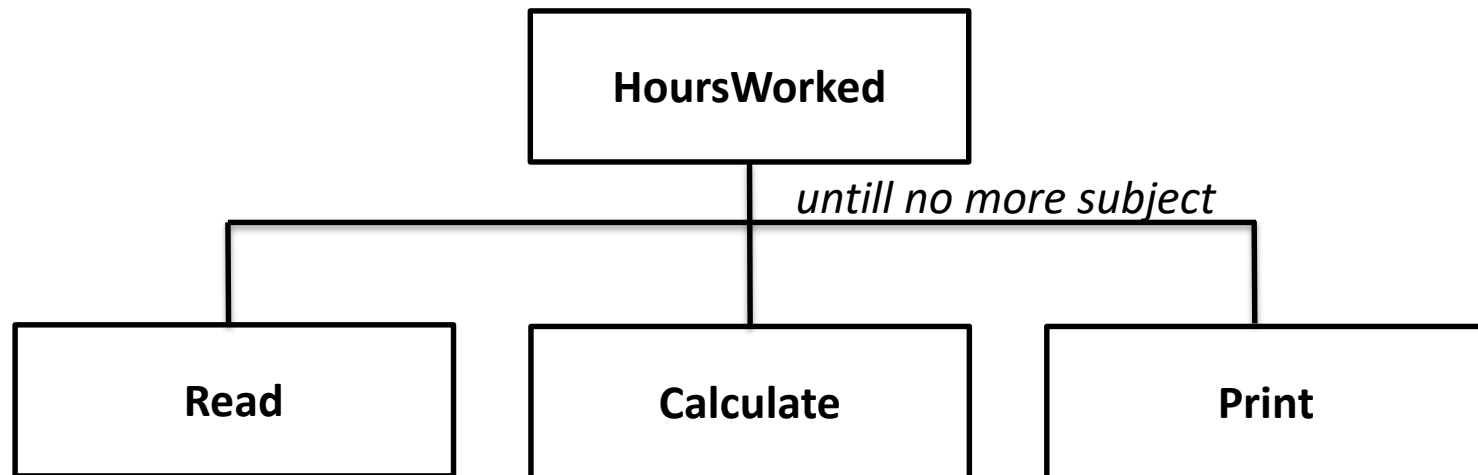
# Modules and Functions

- Writing program
  - Consider the **structure** of the program
- Basic process

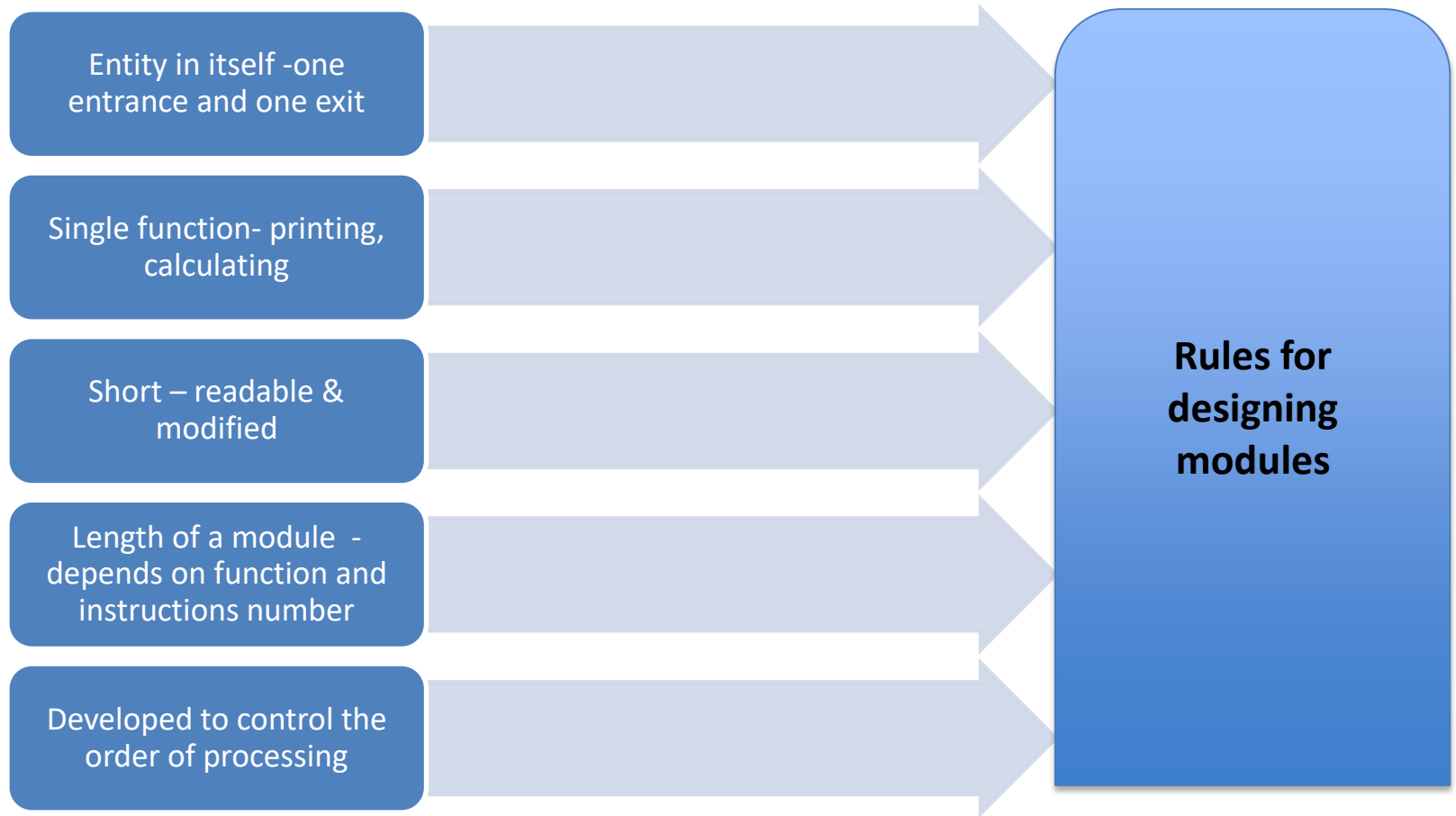


# Modules and Functions

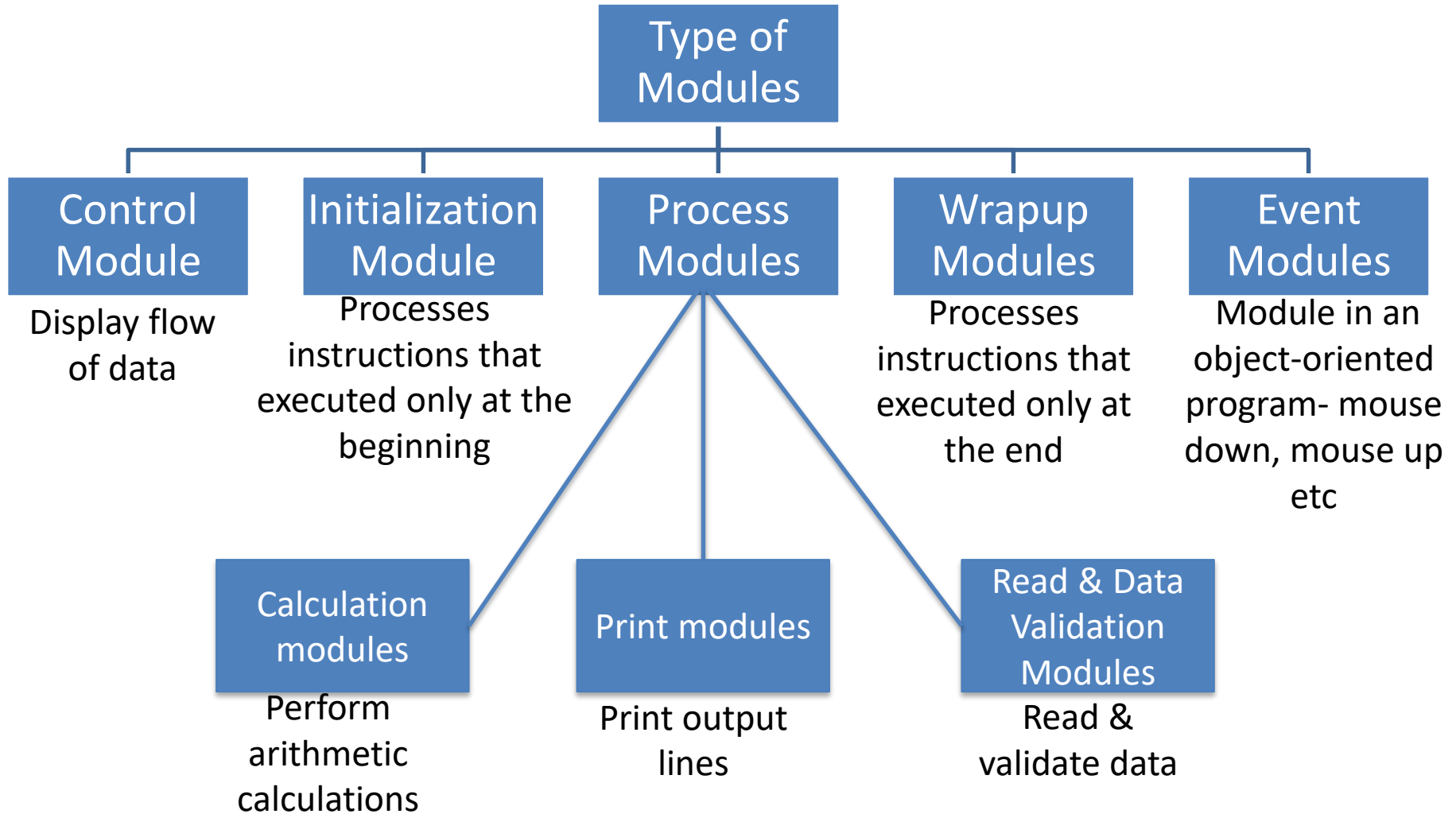
- Module



# Rules for designing modules



# Types of Modules



# What is Cohesion?

- **Cohesion**

- A measure on a module that has the ability to **work independently** as possible from the rest of the other modules.
- work independently :: each module should have a **single entry** and **single exit**



# What is Coupling?

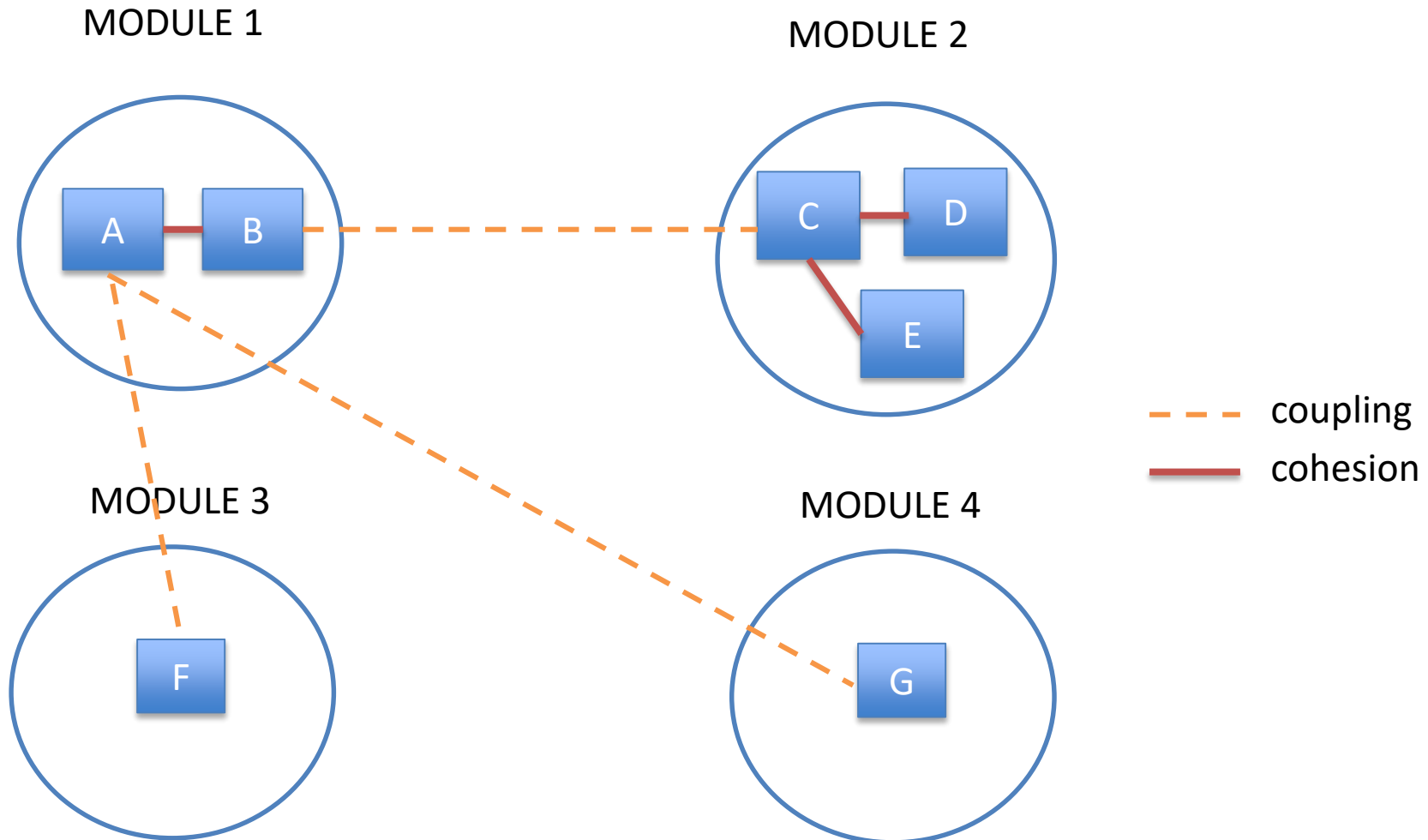
- **Coupling**

- A measure on the strength of **interdependence** of one module to another module.

# Cohesion VS Coupling

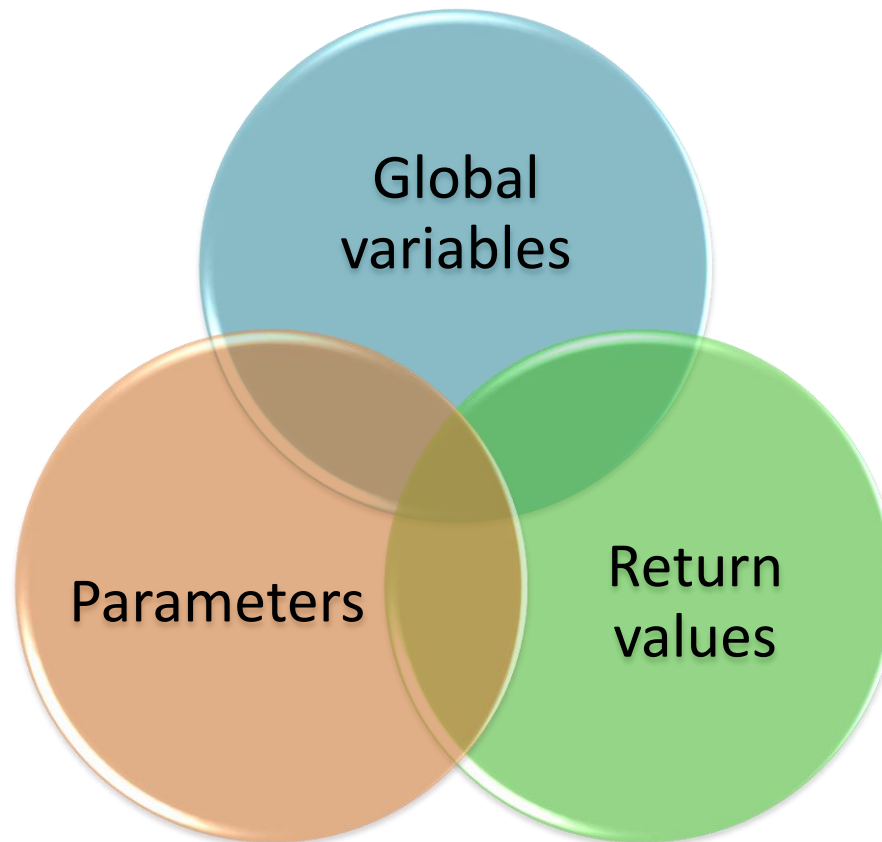
COHESION	COUPLING
Relationship of elements <b>within</b> module	Relationships of elements <b>between</b> modules
Cohesion module focus on a single task	Coupling dependency between modules
Cohesion is Intra – Module Concept	Coupling is Inter - Module Concept

# Cohesion and Coupling



# Cohesion and Coupling

- 3 ways to couple modules:



# Conclusion / What we have learn today?



Pointers for structuring a program



The modules and their function



Cohesion and coupling

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