

Introduction to OOPs

"Overview and basic OOPs concepts"

Fundamentals of OOPs

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Agenda

- 1 Object Oriented Approach
- 2 Questions and Discussion



Why so many languages?

Language **evolution**, **innovation** and **development** occurs for two fundamental reasons:

- To adapt to changing environments and uses
- To implement refinements and improvements in the art of programming



Why Object Oriented Programming?

Limitations in earlier approaches (Procedural/Structure programming)

- List of instructions (no other organizing paradigm) **procedural languages**
- Signs of strain for large and more complex programs **structure programming**
 - Unrestricted access to global data by functions
 - Unrelated functions and data
 - Poor model of the real world
- Arrangement of separate data and functions can't model the real world problems



Real World Modeling

- Complex real world objects have both **attributes** and **behavior**
- **Attributes:** also called characteristics, real world objects have attributes like, speed, color, model for cars, similarly job title, name, age, and address for a person etc. equivalent to data in a program.
- **Behavior:** something that a real-world object does in response to some stimulus, event, or action. E.g. The speed of a car increased with applying accelerator. The age of a person increase with the renewal of every year.



The Object-Oriented Approach

- Combining both *data and the functions that operate on that data* into a *single unit*
- Data in objects can be accessed and modified using functions, hence, object communicate with each others by calling each other's member functions
- Let's it take a real world scenario, and model it using Object Oriented Design (OOD).



Your Turn: Time to hear from you!



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¹<https://fensafitters.files.wordpress.com/2013/07/3d095.jpg>



References



Robert Lafore

Object-Oriented Programming in C++, 4th Edition .
2002.

