# Session 3

OOP (Object Oriented Programming)

# Introduction about OOP

# What is OOP

Object-Oriented Programming (OOP) is a programming paradigm that is based on the concept of "objects". It organizes code into small, reusable pieces that can be easily combined to create more complex systems. OOP is based on several core principles, including encapsulation, inheritance, and polymorphism. OOP is widely used in modern software development because it can make code more modular, reusable, and easier to maintain.

# Why Object Oriented Programming

You need it to write modern software with modern languages.

Reuse Code

- Reduce development time.

More clean code.

- Easier to maintain and troubleshoot

# Building Software

Analysis / Requirements

Design

Implementation

Testing

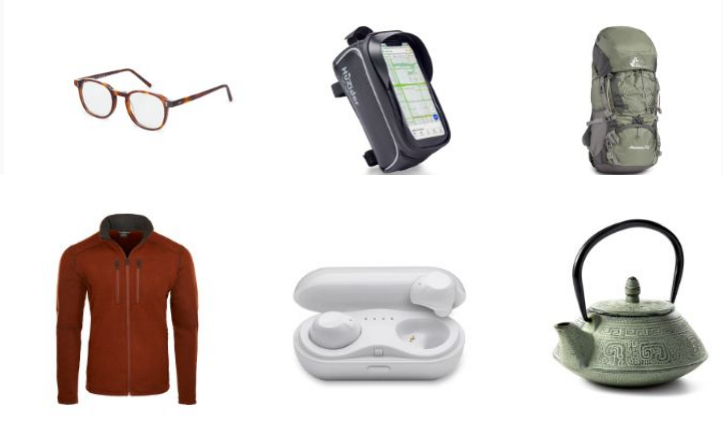
Maintenance

# Object's Characteristics

attributes, fields, data, properties

**Product**

- name
- price
- image (s)
- color
- width
- height
- weight



# Object's Behaviors

actions, operations, behaviors, functions(methods)

**Product**

- buy?
- jump?
- get Discounted Price
- giveFullInfoinXformat
- print

attributes, fields, data, properties

**Car**

- model
- engine Type
- maxSpeed
- price

# Object's Behaviors

actions, operations, behaviors, functions(methods)

**Car**

- Move
- Speed Up
- Speed Down
- Get Price

# Object's Characteristics

attributes, fields, data, properties

**Person**

- name
- address
- phone
- email