# Object Oriented Programming OOP IEC61131-3 Youtube Course by Runtimevic

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# 1. Requeriments







# 2. Introduction







# 3. Types of paradigms

# 4. Concepts Previous

## 4.1 Type of Data

# 4.2 Variable types and special variables

## 4.3 Access modifiers

## 4.4 Access Modifiers Table

# 5. Classes and Objects

## 5.1 Classes and Objects

## 5.2 Function Block

#### 5.2.1 Function Block

#### 5.2.2 Function Block Access Modifiers

_	$\sim$	C atia	Dlask	Declaration	مملما مشمير
	./.5	<b>H</b> UDGHOD	BIOCK	Deciaration	variables

#### 5.2.4 Constructor and Destructor

# 5.3 Object Method

#### 5.3.1 Method

#### 5.3.2 Method access modifiers

#### 5.3.3 Method Declaration of variables

	5.3.4	Method	return	variable	types
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## 5.4 Object Property

## 5.5 Inheritance

#### 5.5.1 Inheritance Function Block

#### 5.5.2 Inheritance Structure



#### 5.5.3 Inheritance Interface



## 5.6 THIS pointer

## 5.7 SUPER pointer

## 5.8 Interface

## 5.9 pointer and reference

## 5.10 Keyword Abstract

## 5.11 Abstract FB vs Interface

## 5.12 Fluent Interface

## 5.13 Interface vs Inheritance

## 5.14 Further operators

## 6. ExST

## 6.1 Extended Structured Text

# 7. OOP Principles

## 7.1 4 Pillars

## 7.2 Abstraction

## 7.3 Encapsulation

## 7.4 Inheritance

## 7.5 Polymorphism

## 8. SOLID

## 8.1 SOLID

# 8.2 SRP - Single Responsibility Principle

# 8.3 OCP - Open/Closed Principle

## 8.4 LSP - Liskov Substitution Principle

# 8.5 ISP - Interface Segregation Principle

# 8.6 DIP - Dependency Inversion Principle

9. UML

9.1 UML

## 9.2 Class UML

## 9.3 Relations

## 9.4 StateChart UML

# 10. Types of Design for PLC programming

# 11. Design patterns

## 11.1 Design patterns

# 11.2 Strategy Pattern

## 11.3 The Abstract Factory Pattern

## 11.4 The Visitor Design Pattern

# 12. Libraries

# 13. Links OOP

# 14. TDD

## 14.1 TDD - Test Drive Development

## 14.2 Units Test