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## C# .NET Training Content

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- Environment Setup
- Basic Syntax
- Program Structure
- Data Types
- Variables
- Constants
- Modifiers
- Statements
- Operators
- Using Math Functions
- Decision Making
- Loops
- Strings
- Date & Time
- Arrays 1D
- Array 2D & 3D
- Functions
- Arguments
- Return types
- Parameters
- Out parameters
- ref parameters
- Collections
- List
- ArrayList
- Dictionary
- Hashtable
- Struct
- Enum
- Classes & Object
- Constructor
- Destructor
- Access level
- Stack Memory
- Heap Memory
- Static class
- Static methods
- Abstract class
- Abstract methods
- Interfaces
- Inheritance
- Multiple Inheritance
- Multilevel inheritance
- Polymorphism
- Method overloading
- method overriding
- Exception Handling
- Files Handling
- Directory Handling
- Creating console applications
- Form Application
- Form Controls
- Dialog Boxes
- Advanced Forms
- Event Handling
- Class library & DLL creation
- Interacting with Notepad files
- Interacting with Excel file
- Visual Studio functions

# SOLIDWORKS API TRAINING CONTENT

## Object Model

- SOLIDWORKS API Object Model
- Application Objects
- SolidWorks Object
- SOLIDWORKS Type Library
- Connecting to New Documents
- ModelDoc2 Object
- ModelDocExtension Object
- PartDoc Object
- AssemblyDoc Object
- DrawingDoc Object

## Automating Part Design

- Automation Tool for Parts
- Setting Material
- Creating the Sketch Rectangle
- Adding Dimensions
- Selection on Creation
- Creating the Sketch Circle
- Creating Extruded Features
- Enabling Contour Selection for the Extrusion
- Creating Revolved Features
- Standard Commands
- View Commands
- Sketch Commands
- Sketch Tools Commands
- Features Commands
- Sketch Relations Commands
- Reference Geometry Commands

## Assembly Automation

- Case Study: Automation Tool for Assemblies
- Transforms
- Creating Math Transforms
- The Transformation Matrix
- Activating Documents
- Invisible Documents
- Object Collections
- Establishing the Curve and Edge Collections
- Establishing the Face Collection
- Getting Adjacent Faces
- Establishing the Points Collection
- Getting Curve Parameters
- Adding and Mating the Knobs to the Chassis
- Adding Components
- Adding Mates

## Drawing Automation

- Case Study: Automating Drawing Creation
- Getting Configuration Names
- Creating Sheets
- Creating Views
- Traversing Drawing Views
- Inserting Annotations
- Saving Drawings in Different Formats
- Drawing Commands
- Annotation Commands & layer Commands

## Selection & Filters

- Programming With a Selected Object
- Selection Manager
- Accessing the Selection Manager
- Counting Selected Objects
- Accessing Selected Objects
- Getting Selected Object Types
- Getting Feature Type Names
- Feature Data Objects
- Accessing the Feature Data Object
- Accessing Selections
- Releasing Selections
- Modifying Feature Data Properties
- Modify the Object Definition
- The SOLIDWORKS BREP Model
- Traversing Topology and Geometry
- Case Study: Body and Face Traversal
- Returning a List of Body Pointers
- Face Material Properties
- Case Study: Feature Manager Traversal
- Traversing the Feature Manager Design Tree from the Top
- Displaying Feature Names and Types
- Setting Feature Suppression
- Setting Feature UI State
- Obtaining a Feature by
- Feature Manager Design Tree Position

## Properties & Attributes

- Case Study: Custom Properties
- Adding Custom Properties to a SOLIDWORKS Document
- Custom Property Manager Object
- Setting and Getting Custom Property Values
- Getting Custom Property Names
- Getting the Custom Property Count
- Case Study: Configurations With Custom Properties
- Returning Mass Properties From a SOLIDWORKS Model
- Using the API to Return the Mass Properties
- MassProperty2 Object
- Case Study: File Summary Information
- Adding Summary Information
- Case Study: Document Attributes
- Naming Attributes
- The Attribute Objects
- AttributeDef Object
- Parameter Object
- Face & Edge Attributes
- Finding the Cylindrical Faces and Attaching Attributes
- Displaying Callouts in the Model View
- Callout Object
- Types of Attribute Traversal
- Adding Mass Properties as Custom Properties