

# Programming C# 6, Part 05 of 12: Adv Data Types and Operators

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**Meet the expert:** Don Kiely is a featured instructor on many of our SQL Server and Visual Studio courses. He is a nationally recognized author, instructor, and consultant specializing in Microsoft technologies. Don has many years of teaching experience, is the author or co-author of several programming books, and has spoken at many industry conferences and user groups. In addition, Don is a consultant for a variety of companies that develop distributed applications for public and private organizations.

**Prerequisites:** This course builds upon: Programming C# 6: Getting started, Your First App, Projects and Syntax and Variables and Data Types.

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**Course description:** Data types and variables are a fundamental part of learning to program, and C# provides a robust set of language features to work with variables and data in memory. In this course, you'll learn about many variable data types, as well as how to convert between them and how to handle null values. You'll also learn about altering and evaluating data with operators, from simple mathematical functions like addition and subtraction to logical and other advanced operators.

## Course outline:

### Converting Data Types

- Introduction
- Converting Data Types
- Demo: Data Conversion
- Widening Conversions
- Using a Cast Operator
- Demo: Widening Conversions
- Demo: Convert Decimal to String
- Summary

### Using Convert Or Parse

- Introduction
- System.Convert Class Methods
- Demo: Convert
- Demo: Parsing
- Summary

### Value and Reference Types

- Introduction
- Value Types & Reference Types
- Demo: Value & Reference Types
- Summary

### Operators

- Introduction
- Operators
- Arithmetic Operators
- Demo: Arithmetic Operators
- Demo: Arithmetic Cont.
- Demo: String Operators
- Binary Assignment Operators
- Demo: Binary Assignment

- Comparison Operators
- Demo: Comparison Operators
- Summary

### Logical Operators & Precedence

- Introduction
- Logical Operators
- Logical Operators Cont.
- Demo: Logical Operators
- Type Operators
- Demo: Type Operators
- Operator Precedence
- Demo: Operator Precedence
- Summary

### Nulls and Default Values

- Introduction
- Default Values
- Demo: Default Values
- Avoiding Missing Values
- Demo: Null Handling
- Reference Types Default Value
- Demo: Reference Type Defaults
- States of a String
- Summary

### Null Handling Operators

- Introduction
- Demo: Null Strings
- Demo: Null Coalescing
- Demo: Null Conditional
- Demo: Null Conditional Cont.

- Demo: Null Conditional Indexer
- Summary

### Nullable Data Types

- Introduction
- Nullable Data Types
- Demo: Nullable Data Types
- Demo: Null Operators
- Demo: Null Operator Effects
- Demo: Nullable Booleans
- Summary