Scott Meyers, Consulting Editor

MORE Effective C#

COVERS C# 7.0

50 Specific Ways to Improve Your C#



Bill Wagner



More Effective C#

Second Edition

More Effective C#: 50 Specific Ways to Improve Your C#

Table of Contents

Cover
Title Page
Copyright Page
Contents
Introduction

Chapter 1 Working with Data Types

- Item 1: Use Properties Instead of Accessible Data Members
- Item 2: Prefer Implicit Properties for Mutable Data
- Item 3: Prefer Immutability for Value Types
- Item 4: Distinguish Between Value Types and Reference Types
- Item 5: Ensure That 0 Is a Valid State for Value Types
- Item 6: Ensure That Properties Behave Like Data
- Item 7: Limit Type Scope by Using Tuples
- Item 8: Define Local Functions on Anonymous Types
- Item 9: Understand the Relationships Among the Many Different Concepts of Equality
- Item 10: Understand the Pitfalls of GetHashCode()

Chapter 2 API Design

- Item 11: Avoid Conversion Operators in Your APIs
- Item 12: Use Optional Parameters to Minimize Method Overloads
- Item 13: Limit Visibility of Your Types



Table of Contents

- Item 14: Prefer Defining and Implementing Interfaces to Inheritance
- Item 15: Understand How Interface Methods Differ from Virtual Methods
- Item 16: Implement the Event Pattern for Notifications
- Item 17: Avoid Returning References to Internal Class Objects
- Item 18: Prefer Overrides to Event Handlers
- Item 19: Avoid Overloading Methods Defined in Base Classes
- Item 20: Understand How Events Increase Runtime Coupling Among Objects
- Item 21: Declare Only Nonvirtual Events
- Item 22: Create Method Groups That Are Clear, Minimal, and Complete
- Item 23: Give Partial Classes Partial Methods for Constructors, Mutators, and Event Handlers
- Item 24: Avoid ICloneable Because It Limits Your Design Choices
- Item 25: Limit Array Parameters to params Arrays
- Item 26: Enable Immediate Error Reporting in Iterators and Async Methods Using Local Functions
- Chapter 3 Task-Based Asynchronous Programming
 - Item 27: Use Async Methods for Async Work
 - Item 28: Never Write async void Methods
 - Item 29: Avoid Composing Synchronous and Asynchronous Methods
 - Item 30: Use Async Methods to Avoid Thread Allocations and Context Switches
 - Item 31: Avoid Marshalling Context Unnecessarily
 - Item 32: Compose Asynchronous Work Using Task Objects
 - Item 33: Consider Implementing the Task Cancellation Protocol



Table of Contents

<u>idale di dontenta</u>
Item 34: Cache Generalized Async Return Types
Chapter 4 Parallel Processing
Item 35: Learn How PLINQ Implements Parallel Algorithms
Item 36: Construct Parallel Algorithms with Exceptions in Mind
Item 37: Use the Thread Pool Instead of Creating Threads
Item 38: Use BackgroundWorker for Cross-Thread Communication
Item 39: Understand Cross-Thread Calls in XAML Environments
Item 40: Use lock() as Your First Choice for Synchronization
Item 41: Use the Smallest Possible Scope for Lock Handles
Item 42: Avoid Calling Unknown Code in Locked Sections
Chapter 5 Dynamic Programming
Item 43: Understand the Pros and Cons of Dynamic Typing
Item 44: Use Dynamic Typing to Leverage the Runtime Type of

- Item 44: Use Dynamic Typing to Leverage the Runtime Type of Generic Type Parameters
- Item 45: Use DynamicObject or IDynamicMetaObjectProvider for Data-Driven Dynamic Types
- Item 46: Understand How to Use the Expression API
- Item 47: Minimize Dynamic Objects in Public APIs
- Chapter 6 Participate in the Global C# Community
 - Item 48: Seek the Best Answer, Not the Most Popular Answer
 - Item 49: Participate in Specs and Code
 - Item 50: Consider Automating Practices with Analyzers

Index

