

LINQ TO OBJECTS Using C# 4.0

EXTENDING LINQ TO OBJECTS AND PARALLEL LINQ (PLINQ)

TROY MAGENNIS

Foreword by BARRY VANDEVIER, Chief Information Officer, Sabre Holdings

LINQ TO OBJECTS USING C# 4.0

LINQ to Objects Using C# 4.0: Using and Extending LINQ to Objects and Parallel LINQ (PLINQ)

Table of Contents

Foreword

Preface

Who Should Read This Book

Overview of the Book

Conventions

Sample Download Code and Updates

Choice of Language

System Requirements

Acknowledgments

About the Author

Chapter 1: Introducing LINQ

What Is LINQ?

The (Almost) Current LINQ Story

LINQ Code MakeoverBefore and After Code Examples

Benefits of LINQ

Summary

References

Chapter 2: Introducing LINQ to Objects

LINQ Enabling C# 3.0 Language Enhancements

LINQ to Objects Five-Minute Overview



Table of Contents

Summary

References

Chapter 3: Writing Basic Queries

Query Syntax Style Options

How to Filter the Results (Where Clause)

How to Change the Return Type (Select Projection)

How to Return Elements When the Result Is a Sequence (Select Many)

How to Get the Index Position of the Results

How to Remove Duplicate Results

How to Sort the Results

Summary

Chapter 4: Grouping and Joining Data

How to Group Elements

How to Join with Data in Another Sequence

Summary

Chapter 5: Standard Query Operators

The Built-In Operators

Aggregation OperatorsWorking with Numbers

Conversion OperatorsChanging Types

Element Operators

Equality OperatorSequenceEqual

Generation OperatorsGenerating Sequences of Data

Merging Operators

Partitioning OperatorsSkipping and Taking Elements

Quantifier Operators All, Any, and Contains

Summary



Table of Contents

Chapter 6: Working with Set Data

Introduction

The LINQ Set Operators

The HashSet<T> Class

Summary

Chapter 7: Extending LINQ to Objects

Writing a New Query Operator

Writing a Single Element Operator

Writing a Sequence Operator

Writing an Aggregate Operator

Writing a Grouping Operator

Summary

Chapter 8: C# 4.0 Features

Evolution of C#

Optional Parameters and Named Arguments

Dynamic Typing

COM-Interop and LINQ

Summary

References

Chapter 9: Parallel LINQ to Objects

Parallel Programming Drivers

Multi-Threading Versus Code Parallelism

Parallelism Expectations, Hindrances, and Blockers

LINQ Data Parallelism

Writing Parallel LINQ Operators

Summary



Table of Contents

References Glossary Index

