

C# Best Practices: Collections and Generics

INTRODUCTION



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C# Best Practices Series

C# Best Practices: Improving on the Basics

- Components
- Building good
 - Classes
 - Properties
 - Methods
- String handling
- New C# 6 features

C# Best Practices: Collections and Generics





An Apprentice

A learner

One that has ability, but
has yet to achieve
all knowledge

Someone who wants to
know more



This Course Is for You!

Learn more about handling **collections** in
your applications

Leverage **generics** to build more
generalized code

Use **LINQ** to query your collections



For Each Covered Feature

Review
the
"How"

"When"

"Why"

Best
Practices

Compare
and
Contrast



Prerequisites

C#

C# 6.0

C# 5.0

Visual Studio

Visual Studio 2015

Enterprise Edition

Professional Edition

Community Edition

Visual Studio 2013

<https://www.visualstudio.com/en-us/products/vs-2015-product-editions.aspx>



Module Overview



Collection Overview

Get the most from this course

Sample Application

Course Outline



"Red"

"Espresso"

"White"

"Navy"

1 "Saw" 9.99

2 "Wrench" 8.98

3 "Steel Hammer" 15.95

Collection

A class that provides in-memory management of a group of items

- Simple types
- Complex types



"Red"

"Espresso"

"White"

"Navy"

1 "Saw" 9.99

2 "Wrench" 8.98

3 "Steel Hammer" 15.95

Collection

A class that provides in-memory management of a group of items

- Similar



"Red"

1 "Saw" 9.99

button1

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Collection

A class that provides in-memory management of a group of items

- Similar
- Different



Kinds of Collections

Lists

"Red"
"Espresso"
"White"
"Navy"

Dictionaries

"CA"	"California"
"WA"	"Washington"
"NY"	"New York"



List

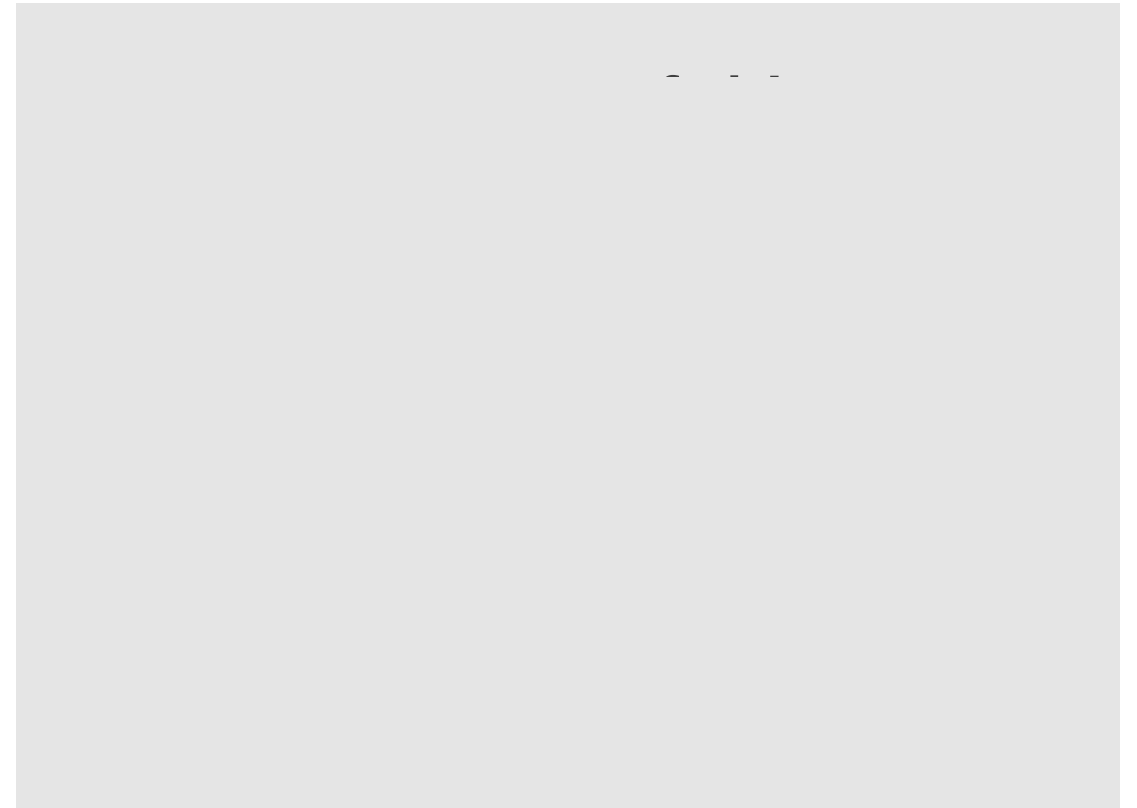
0	"Red"
1	"Espresso"
2	"White"
3	"Navy"

...



Dictionary

"CA"	"California"
"WA"	"Washington"
"NY"	"New York"



Collection of What?

Product Objects

1	"Saw"	9.99
2	"Wrench"	8.98
3	"Steel Hammer"	15.95

Strings

"CA"	"California"
"WA"	"Washington"
"NY"	"New York"



Thoughts? Comments? Questions?

Table of contents

Description

Exercise files

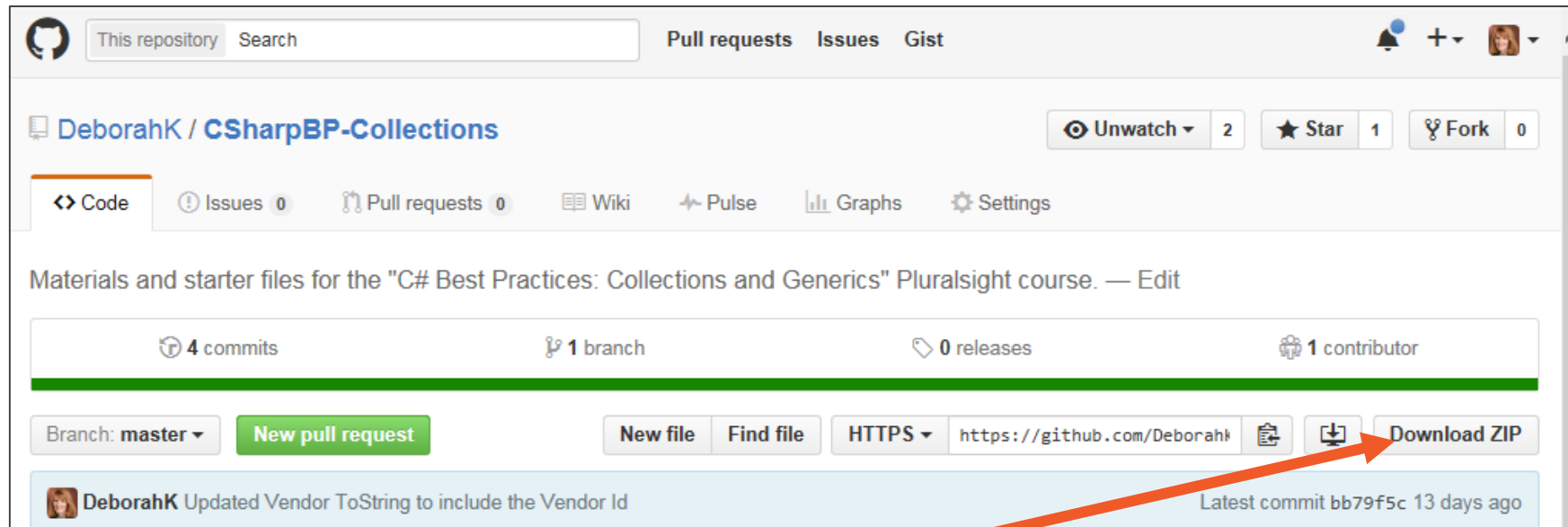
Discussion

Learning Check

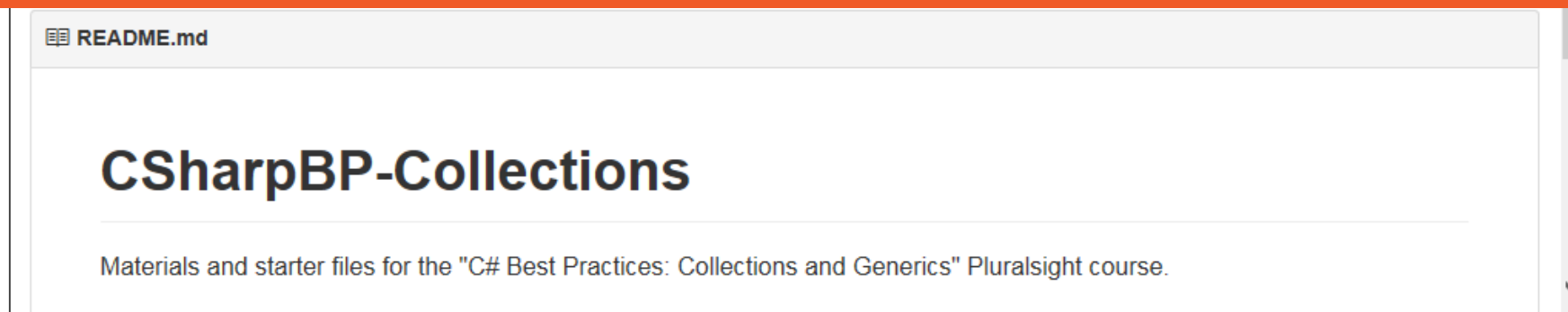
Recommended



GitHub Repository



<https://github.com/DeborahK/CSharpBP-Collections>



Course Outline



Arrays

Building Generic Code with Generics

Generic Lists

Generic Dictionaries

Generic Collection Interfaces

LINQ

Final Words

