

Identify What Kind of Data is Contained in Collections



Paul D. Sheriff

Business/IT Consultant PDS Consulting

psheriff@pdsa.com

www.pdsa.com

Module Goals



- **Answer questions about a collection...**
 - **All items meet a condition**
 - **Any items meet a condition**
 - **Is item contained in a collection**
- **Use an `EqualityComparer<T>` class**

Matching a Condition

```
Products.All(predicate);
```

```
Products.All(prod =>  
    prod.Name.Contains(" "));
```

- ◀ **All() method searches all items in collection**
- ◀ **Determines if *all* items match the condition**

- ◀ **Do all product names contain a blank space?**

```
Products.Any(predicate);
```

◀ **Any() method searches all items in collection**
Determines if *any* items in collection match the condition

```
Products.Any(prod =>  
    prod.Name.Contains("z"));
```

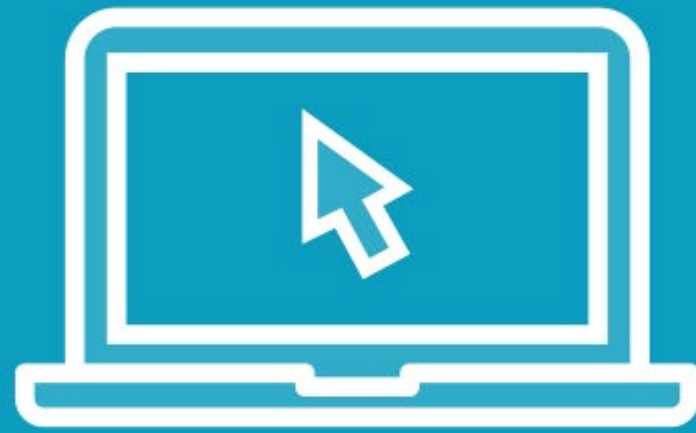
◀ **Do any product names have a "z" in them?**

Demo



- **All() method**

Demo



- **Any() method**

Contains



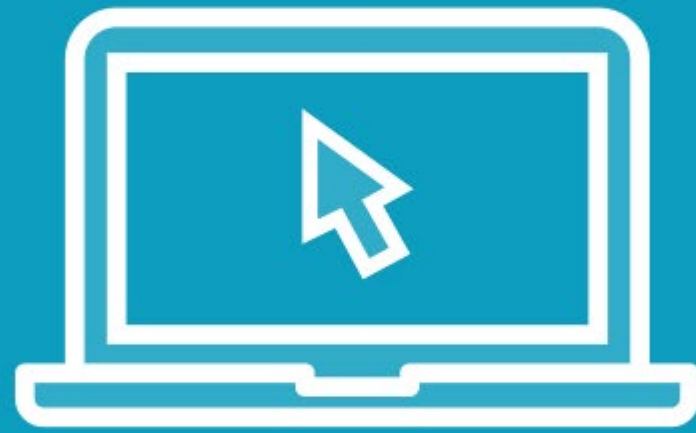
LINQ Contains

**Different from
string.Contains()**

**Searches
collection to see if
a value exists**

**For simple data
type collections
such as int,
decimal, string,
etc.**

Demo



- **Contains using an integer list**

LINQ Contains with Objects

**Default is to compare
object references**

**Most often need to
look at value in
property of object**

**Need to create
`EqualityComparer<T>`
class**

```
public class ProductIdComparer :  
    EqualityComparer<Product> {  
    public override bool Equals(Product x,  
                                Product y)  
    {  
        return (x.ProductID == y.ProductID);  
    }  
  
    public override int  
        GetHashCode(Product obj) {  
        return obj.ProductID.GetHashCode();  
    }  
}
```

- ◀ **Inherit from EqualityComparer<Product>**
- ◀ **Override Equals(product 1, product 2) method**
- ◀ **Return true if both match**
- ◀ **Override GetHashCode() method**
- ◀ **Create a unique value from one or more properties**

Demo



- **Contains() using a comparer class**

Module Summary



- **All()** checks if *all* items match a predicate
- **Any()** checks if *any* items match a predicate
- **Contains with a comparer** make it easy to search object property values

Up Next:

Compare and Union Two Collections
