



# C# - Custom Generics Lab

Orestis Meikopoulos  
Consultant – Modern Apps



# Agenda

- You will be presented with an invariant generic interface that models the repository pattern for data access operations from a database.

ASK: Use the instructions you will find inside the **Day 3 -> CSharp Variant Parameters Lab -> VariantTypesGenerics.Starter -> Program.cs** file inside **Microsoft.CSharp.Advanced** solution. Your goal will be to refactor the existing invariant interface to variant equivalents by applying covariance and contravariance as appropriate based on the information presented.

# How it Works

- For every action item, you will be given the allotted time to complete the request
- Once you are done you need to create a new branch, push the branch to the repository and create a pull request
- At the end of the allotted time, one of you is going to be picked to walk us through the changes and the rest will comment on the solution

# Lab Prerequisites

1. (Optional) Installation of the [SQLite/SQL Server Compact Toolbox](#) extension in your VS2019

# Git – How to submit your work

## 1. Create the branch

```
git checkout -b custom-generics-lab/{surname}-{name}-1
```

## 2. Stage your changes

```
git add .
```

## 3. Commit your changes

```
git commit -m "Exercise 1 – {Exercise title}"
```

## 4. Push to the remote repository

```
git push --set-upstream origin custom-generics-lab/{surname}-{name}-1
```

## Exercise 1

**Custom Generics with variant parameters -> Change DumpPeople method so as to take as input a generic parameter of type <Person> instead of <Employee>. Consider which of Covariance or Contravariance should be applied to the IRepository generic interface in order to be able to reuse the DumpPeople logic between both Employee and Person objects (25 mins)**

Wheel of fortune

## Exercise 2

**Custom Generics with variant parameters -> Change AddManagers method so as to take as input a generic parameter of type <Manager> instead of <Employee>. Consider which of Covariance or Contravariance should be applied to the IRepository generic interface in order to be able to reuse the AddManagers logic between both Employee and Manager objects (25 mins)**



Wheel of fortune

# Thank You

- For the opportunity
- For participating
- For listening