# Exercises for Chapter 17 – Metadata and Reflection

## Exercise 1

Implement a self-registered singleton repository.

A singleton is a class that implements the ISingleton interface:

public interface ISingleton {  
 string Name { get; }  
}

public class X : ISingleton {  
 public string Name { get { return "X"; } }  
}

A repository is a static class that can find a singleton based on its name:

public static class Repository {  
 public ISingleton GetInstance(string name) ...  
}

ISingleton x = Repository.GetInstance("X");

Hint: Use the repository static constructor to find all types that implement ISingleton in the current AppDomain's loaded assemblies, create an instance of each type and store it in a dictionary or hashtable.