04 Generics  
Test your Knowledge  
1. Describe the problem generics address.

Use generic types to maximize code reuse, type safety, and performance.

The most common use of generics is to create collection classes.  
2. How would you create a list of strings, using the generic List class?

public class List<T> : System.Collections.Generic.ICollection<T>, System.Collections.Generic.IEnumerable<T>, System.Collections.Generic.IList<T>, System.Collections.Generic.IReadOnlyCollection<T>, System.Collections.Generic.IReadOnlyList<T>, System.Collections.IList  
3. How many generic type parameters does the Dictionary class have?

Dictionary<TKey,TValue> generic type has two type parameters, TKey and TValue , that represent the types of its keys and values.  
4. True/False. When a generic class has multiple type parameters, they must all match.  
5. What method is used to add items to a List object?

The Insert method of List<T> class inserts an object at a given position.  
6. Name two methods that cause items to be removed from a List.

List<T> Remove()

List<T> RemoveAll()  
7. How do you indicate that a class has a generic type parameter?

A generic type is declared by specifying a type parameter in an angle brackets after a type name, e.g. TypeName<T> where T is a type parameter.  
8. True/False. Generic classes can only have one generic type parameter.  
9. True/False. Generic type constraints limit what can be used for the generic type.  
10. True/False. Constraints let you use the methods of the thing you are constraining to.