

# Generics Assignment Solutions

## 1. What are Generics in Java?

**Ans.** Generics in Java are used to provide type safety and reduce code redundancy by allowing the use of generic types. It allows classes, methods, and interfaces to be written generically, without specifying the type of data being used.

## 2. What are the benefits of using Generics in Java?

**Ans.** The benefits of using Generics in Java are:

- Type safety

- Code reusability

- Improved readability

- Reduced code redundancy

- Improved performance

## 3. What is a Generic Class in Java?

**Ans.** A Generic Class in Java is a class that can work with different types of data. It is defined using a type parameter enclosed in angle brackets, which represents the type of data being used.

## 4. What is a Type Parameter in Java Generics?

**Ans.** A Type Parameter in Java Generics is a placeholder for the type of data that is used by a generic class or method. It is defined using a single uppercase letter enclosed in angle brackets, such as `<T>` or `<E>`.

## 5. What is a Generic Method in Java?

**Ans.** A Generic Method in Java is a method that can work with different types of data. It is defined using a type parameter enclosed in angle brackets, which represents the type of data being used.

## 6. What is the difference between ArrayList and ArrayList<T>?

**Ans.** ArrayList is a non-generic class, while ArrayList<T> is a generic class. ArrayList<T> provides type safety, as it can only store elements of the specified type, whereas ArrayList can store any type of element.