Maps and Generic Assignment

Ques) what is Map in java?

Ans) A Map is an object that maps keys to values. A map cannot contain duplicate keys: Each key can map to at most one value. It models the mathematical function abstraction.

Ques) what are commonly used implementations of Map in java?

Ans) The three general-purpose Map implementations are HashMap , TreeMap and LinkedHashMap .

Ques) what is the difference between HashMap and TreeMap in java?

Ans) HashMap implements Map interface while TreeMap implements SortedMap interface. A Sorted Map interface is a child of Map. HashMap implements Hashing, while TreeMap implements Red-Black Tree(a Self Balancing Binary Search Tree). Therefore all differences between Hashing and Balanced Binary Search Tree apply here.

Ques) How do you check if a key exists in a Map in java?

Ans) HashMap. containsKey() method is used to check whether a particular key is being mapped into the HashMap or not. It takes the key element as a parameter and returns True if that element is mapped in the map.

Ques) what are Generics in java?

Ans) Generics means parameterized types. The idea is to allow type (Integer, String, … etc., and user-defined types) to be a parameter to methods, classes, and interfaces. Using Generics, it is possible to create classes that work with different data types

Ques) what are the benefits of using Generics in java?

Ans) Generics in Java allow you to write code that is more reusable. By specifying a type parameter in a generic class, method, or interface, you can create code that can work with multiple data types. This reduces code duplication, improves code maintainability, and makes your code more efficient.

Ques) what is a Generic class in java?

Ans) Java Generics was introduced to deal with type-safe objects. It makes the code stable. Java Generics methods and classes, enables programmer with a single method declaration, a set of related methods, a set of related types

Ques) what is a Type Paramater in java Generics?

Ans) A type parameter, also known as a type variable, is an identifier that specifies a generic type name. The type parameters can be used to declare the return type and act as placeholders for the types of the arguments passed to the generic method, which are known as actual type arguments

Ques) what is Generic Method in java?

Ans) Generic methods are methods that introduce their own type parameters. This is similar to declaring a generic type, but the type parameter's scope is limited to the method where it is declared. Static and non-static generic methods are allowed, as well as generic class constructors.

Ques) what is the difference between ArrayList and ArrayList<T> Map in java?

Ans) 