Map and Generics

1. What is a Map in Java?

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**.**

2. What are the commonly used implementations of Map in Java?

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

3.What is the difference between HashMap and TreeMap?

HashMap allows storing at most one null key and many null values. However, TreeMap doesn't allow a null key but may contain many null values. If we're using a TreeMap with a user-defined Comparator, then it depends on the implementation of the compare() method how null values get handled.

4. How do you check if a key exists in a Map in Java?

HashMap containsKey() Method in Java
util. 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.

5. What are Generics in Java?

Java Generics is a set of related methods or a set of similar types. Generics allow types Integer, String, or even user-defined types to be passed as a parameter to classes, methods, or interfaces. Generics are mostly used by classes like HashSet or HashMap.

6. What are the benefits of using Generics in Java?

Generics enable the use of stronger type-checking, the elimination of casts, and the ability to develop generic algorithms. Without generics, many of the features that we use in Java today would not be possible.

7. What is a Generic Class in Java?

A generic class is defined just like a normal class, with the addition of a list of type parameters in angle brackets <...> after the class name. The type parameters can then be used throughout the class definition to declare variables and specify parameter types for methods.

8. What is a Type Parameter in Java Generics?

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.

9. What is a Generic Method in Java?

Generic methods allow type parameters to be used to express dependencies among the types of one or more arguments to a method and/or its return type.

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

That's all on the difference between ArrayList and ArrayList in Java. Remember raw type is not type safe but ArrayList with the unbounded wildcard is type safe because you can add any type (String, Integer, Object into ArrayList of raw type, but you cannot add any element on ArrayList of unknown type.