

1. What is a Map in Java?

Ans - A Map in Java is a collection that stores data in the form of unique key-value pairs.

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

Ans - Commonly utilized implementations of Map in Java encompass HashMap, TreeMap, LinkedHashMap, and ConcurrentHashMap.

3. What is the difference between HashMap and TreeMap?

Ans - HashMap employs hashing to store key-value pairs in an unordered manner, while TreeMap is a sorted collection that arranges key-value pairs based on natural key order or a custom Comparator.

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

Ans - In Java, verifying the existence of a key in a Map can be accomplished through the `containsKey()` method or the `get()` method. `containsKey()` yields a boolean outcome indicating if the key is present, while `get()` retrieves the associated value or null if the key is absent in the Map.

5. What are Generics in Java?

Ans - Java employs Generics to ensure type safety and decrease code duplication by permitting the utilization of generic types. This feature facilitates the creation of generic classes, methods, and interfaces, eliminating the necessity to explicitly define the data type in use.

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

Ans - Utilizing Generics in Java offers several advantages:

- Enhanced type safety
- Increased code reusability
- Improved code readability
- Decreased code redundancy
- Enhanced performance

7. What is a Generic Class in Java?

Ans - In Java, a Generic Class is one that operates with various data types. It is formulated by introducing a type parameter enclosed within angle brackets, signifying the specific data type employed.

8. What is a Type Parameter in Java Generics?

Ans - Within Java Generics, a Type Parameter serves as a stand-in for the data type utilized by a generic class or method. This parameter is established using a singular uppercase letter encompassed by angle brackets, like <T> or <E>.

9. What is a Generic Method in Java?

Ans - In Java, a Generic Method is one that operates across various data types. It is characterized by a type parameter enclosed within angle brackets, denoting the specific data type involved.

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

Ans - ArrayList is a non-generic class, whereas ArrayList<T> represents a generic class. ArrayList<T> ensures type safety by exclusively accommodating elements of the designated type, unlike the non-restricted ArrayList which can hold elements of any type.