

## Map And Generics

1) What is Map?

Ans) A Map is a Collection in java that stores data as key-value pairs, where each key is unique.

2) Implementations of Map?

Ans) HashMap, TreeMap, LinkedHashMap, and ConcurrentHashMap.

3) Difference b/w HashMap and ~~Tree~~ TreeMap?

Ans) HashMap is an unordered collection whereas TreeMap is a sorted collection based on natural order of key or a custom Comparator.

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

Ans) by using the containsKey() or get() method.

5) What are Generics?

Ans) Generics are used to provide type safety & reduce code redundancy by allowing the use of generic types. It allows classes, methods, & interface to be written generically without specifying the type of data being used.

6) benefits of using Generics?

Ans)

- Type Safety
- Code reusability
- improved readability
- Reduced Code redundancy
- Improved performance.

7) What is a Generic class?

Ans)

It 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 ~~using~~ used.

8) What is Type parameter in Java?

Ans)

It 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,  $\langle T \rangle$  or  $\langle E \rangle$ .

9) What is Generic Method?

Ans)

It 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.



10) Difference b/w ArrayList & 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 specific type, whereas ArrayList can store any type of element.