

Java maps is a method to keep track of data in the form of key-value pairs. The keys, however, must be unique and non-repeating, meaning you cannot have duplicate pairs of keys. Java provides two types of map interfaces, Map and Sorted Map. There are also three different types of map classes, TreeMap, HashMap, and LinkedHashMap. The SortedMap interface is similar to the normal Map, however it provides some additional features, like Key sorting. The SortedMap interface inherits from the Map interface. TreeMap is a class that implements the SortedMap interface in order to sort. HashMap is a class that does not maintain any order. LinkedHashMap inherits the HashMap class, and maintains an insertion order. TreeMap maintains an ascending order and is good for organization. The use of a TreeMap may be better for things like alphabetical order and better organizing contents inside a map. However, using a HashMap can be faster and be better to use if the way the contents of the map are organized does not matter. The containsValue(Object) method is used to check if a value is being mapped by a key in the map. Similarly, the containsKey(Object) method is used to see if a key is being mapped onto the map. These two methods may be good for confirming if a value or key has been successfully added to your map, or if the user has entered a valid input to search through the map. The keySet() method is used to return a view of the keys in a map. This may be useful for listing what is stored in the map. The values() method creates a collection of map values, and would also be useful for viewing contents stored in the map object. The put(Object, Object) method is used to associate a key with a value in a map. This method would be important for storing contents into the map.