HashMap FactSheet

HashMaps are storing data in the form of maps. A map consists of a key and a value:

The key has to be always a Java object (String, Integer or your own objects). It is important that the key objects are providing a unique hashcode. This is the case for every built-in object in Java. If you want to use your own objects as keys, make sue that they are providing a method hashcode and that this method returns a unique (integer-) value!

Creating a HashMap:

HashMap<String, String> hm = new HashMap()<String, String>;

This creates a HashMap where the key and the value are Strings. Another common HashMap declaration would be <Integer, String> which creates a HashMap with an Integer as key and a String as value.

Putting maps into the HashMap:

hm.put(„ABC“, „XYZ);

The keys of a HashMap are always unique, so it is not possible to put a second map with the same key into a HashMap. In this case, the already existing map will be overwritten.

Getting a map out of a HashMap:

String s = hm.get(„ABC“);

This makes use of the key („ABC“) to retrieve the map from the HashMap and store the value of the Map („XYZ“) into the String s.

Iterating over HashMaps:

Iterating over a HashMap can be done in three ways: over the keys (keySet), the values (values) or the whole maps (entrySet):

- keySet: iterates over all keys in the HashMap. Gives back a set of the keys. For example, if the keys are Strings, keySet gives back a Set of type String
- values: gives back a collection with all values in the HashMap. The collection has the same type as the values
- entrySet: gives back a set of maps. Every map consists of a key and its corresponding value

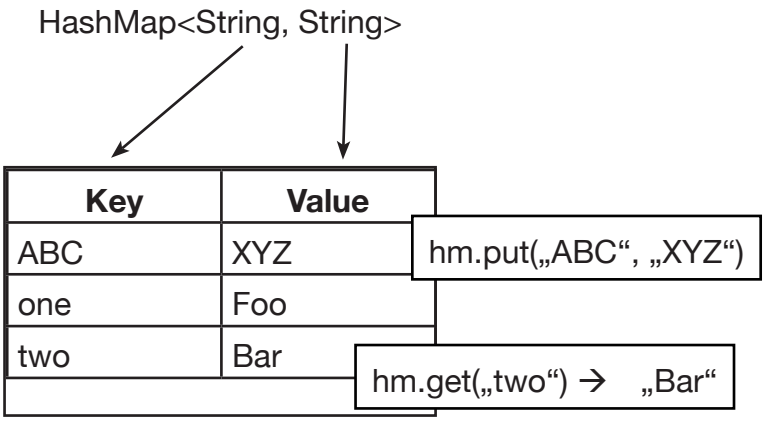
Example: iterating over the maps of a HashMap:

```
for (String key : hm.keySet()) {
        value = hm.get(key);
        System.out.println(key + " " + value);
}
```

Please mention: the order in which you'll get the elements from the HashMap is absolutely unpredictable!

Iterating over a HashMap is only useful if

1. you don't know the key of the map you are looking for
2. you have to touch all maps in the HashMap



Further Reading:

http://math.hws.edu/javanotes/c10/s3.html