

## Hashmap

### Assignment 2

```
import java.util.HashMap;
```

```
import java.util.Map;
```

```
import java.util.Map.Entry;
```

```
class Tester {
```

```
    public static Map<String, Integer> mergeMaps(Map<String, Integer> mapOne, Map<String, Integer> mapTwo) {
```

```
        Map<String, Integer> mergedMap = new HashMap<>();
```

```
        // Add all entries from the first map to the merged map
```

```
        for (Entry<String, Integer> entry : mapOne.entrySet()) {
```

```
            mergedMap.put(entry.getKey(), entry.getValue());
```

```
        }
```

```
        // Add entries from the second map to the merged map
```

```
        for (Entry<String, Integer> entry : mapTwo.entrySet()) {
```

```
            String key = entry.getKey();
```

```
            Integer value = entry.getValue();
```

```
            if (mergedMap.containsKey(key)) {
```

```
                // If the key already exists and has a different value, add a new key with the value
```

```
                String newKey = "new" + key;
```

```
                while (mergedMap.containsKey(newKey)) {
```

```
                    newKey = "new" + newKey; // Ensure the new key is unique
```

```
                }
```

```

        mergedMap.put(newKey, value);
    } else {
        // If the key does not exist, add it directly
        mergedMap.put(key, value);
    }
}

return mergedMap;
}

public static void main(String args[]) {
    Map<String, Integer> mapOne = new HashMap<>();
    mapOne.put("Kelly", 10);
    mapOne.put("Micheal", 20);
    mapOne.put("Ryan", 30);

    Map<String, Integer> mapTwo = new HashMap<>();
    mapTwo.put("Jim", 15);
    mapTwo.put("Andy", 45);
    mapTwo.put("Micheal", 25); // Adding a duplicate key with different value

    Map<String, Integer> mergedMap = mergeMaps(mapOne, mapTwo);

    System.out.println("Merged Map\n=====");
    for (Entry<String, Integer> entry : mergedMap.entrySet()) {
        System.out.println(entry.getKey() + " -- " + entry.getValue());
    }
}

```

```
}  
}
```

```
C:\Users\Sarvesh\OneDrive\Desktop>java Tester2  
Merged Map  
=====  
Ryan -- 30  
newMicheal -- 25  
Andy -- 45  
Kelly -- 10  
Micheal -- 20  
Jim -- 15
```