

# SCALA PROGRAMMING

## LAB - 11

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Write a Scala program to create a map and find the difference between two maps.

### CODE :

```
object FindDifferenceBetweenMapsExample {
  def main(args: Array[String]): Unit = {

    // Create two maps
    val map1 = Map("Red" -> 1, "Green" -> 4, "Blue" -> 2, "Orange" -> 3)
    val map2 = Map("Red" -> 5, "Green" -> 4, "Blue" -> 2, "Pink" -> 3)

    // Print the original map
    println("Original map1: " + map1)
    println("Original map2: " + map2)

    // Find the difference between the maps
    val difference = map1 -- map2.keySet

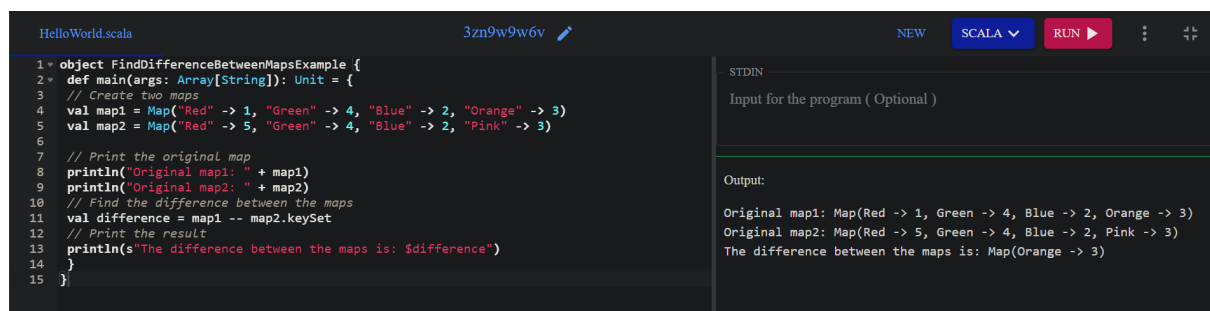
    // Print the result
    println(s"The difference between the maps is: $difference")
  }
}
```

### OUTPUT :

Original map1: Map(Red -> 1, Green -> 4, Blue -> 2, Orange -> 3)

Original map2: Map(Red -> 5, Green -> 4, Blue -> 2, Pink -> 3)

The difference between the maps is: Map(Orange -> 3)



The screenshot shows a Scala IDE with a file named 'HelloWorld.scala'. The code is as follows:

```
1 object FindDifferenceBetweenMapsExample {
2   def main(args: Array[String]): Unit = {
3     // Create two maps
4     val map1 = Map("Red" -> 1, "Green" -> 4, "Blue" -> 2, "Orange" -> 3)
5     val map2 = Map("Red" -> 5, "Green" -> 4, "Blue" -> 2, "Pink" -> 3)
6
7     // Print the original map
8     println("Original map1: " + map1)
9     println("Original map2: " + map2)
10    // Find the difference between the maps
11    val difference = map1 -- map2.keySet
12    // Print the result
13    println(s"The difference between the maps is: $difference")
14  }
15 }
```

The IDE has tabs for 'NEW', 'SCALA', and 'RUN'. The 'STDIN' tab is active, showing 'Input for the program ( Optional )'. The 'Output' tab shows the following output:

```
Original map1: Map(Red -> 1, Green -> 4, Blue -> 2, Orange -> 3)
Original map2: Map(Red -> 5, Green -> 4, Blue -> 2, Pink -> 3)
The difference between the maps is: Map(Orange -> 3)
```

In this code we are doing object oriented programming in which we will do the programming by creating objects.

Here we are creating the object FindDifferenceBetweenMapsExample where we are creating map1 and map2 by assigning the val keyword to them that is they are immutable , map is a type of dictionary which we pass in scala where values and keys are separated by keywords " -> ". This code is giving the difference between the two maps which the user created but in this code the difference is between the map1 and keys present in map2.

First, we create two maps map1 and map2 using the Map constructor and provide keyvalue pairs. Here are the steps we need to follow to determine the difference between the two maps:

1. Retrieve the set of keys from map2 using the keySet method
2. Use the -- operator on map1 and specify the set of keys from map2 to remove those keys and their associated values from map1.
3. Finally, we print the result using println, including the difference between the two maps.