1.Problem Statement

Write a program to build any collection containing duplicates.Create its copy with all duplicates removed.

2.Source Code

```java
//Build any collection containing duplicates.Create its copy with all duplicates
removed.
package mypackage;
import java.util.ArrayList;
import java.util.Collection;
import java.util.HashSet;
import java.util.Iterator;


public class DuplicateList {
            //Declaration of main method
        public static void main(String[] args) {

                //Create an ArrayList of type String
                ArrayList<String> colors= new ArrayList<String>();

                //Add elements to ArrayList
                colors.add("Blue");
                colors.add("Red");
                colors.add("Green");
                colors.add("Yellow");
                colors.add("Magenta");
                colors.add("White");
                colors.add("Black");
                colors.add("Blue");
                colors.add("Yellow");
                colors.add("Black");

                System.out.println("The list of colors with duplicates");
                System.out.println("************************************");
                //for(String color:colors)
                        //System.out.println(color);

                //Iterating the ArrayList elements using iterator
                Iterator itr=colors.iterator();
                while(itr.hasNext())
                {
                        Object element=itr.next();
                        System.out.println(element);
                }

                //Converting to HashSet
                Collection<String> hset=new HashSet<String>(colors);

                System.out.println();
                System.out.println();
```

```java
            System.out.println("The list of colors after removing duplicates");
            System.out.println("*******************************************");

            //Iterating the HashSet elements using iterator
            Iterator itr2=hset.iterator();
            while(itr2.hasNext())
            {
                Object element=itr2.next();
                System.out.println(element);
            }


    }


} //End of program
```
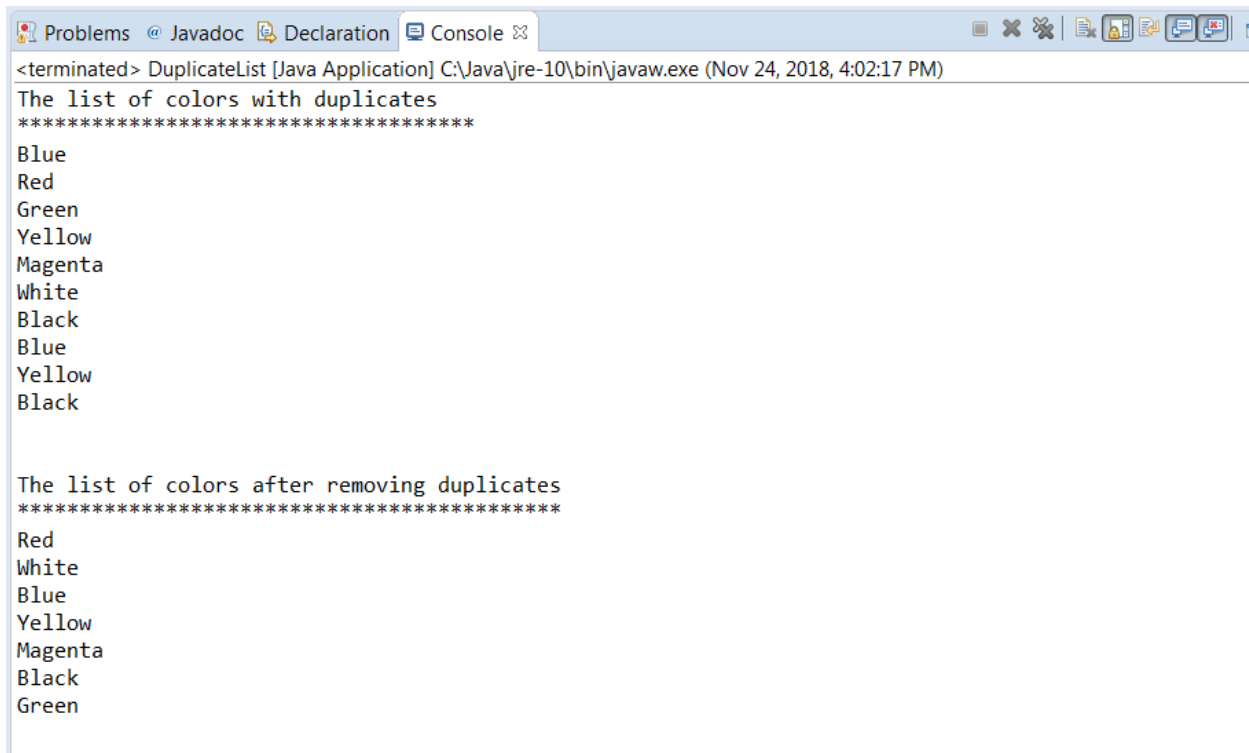
3.Output

```
The list of colors with duplicates
***********************************
Blue
Red
Green
Yellow
Magenta
White
Black
Blue
Yellow
Black


The list of colors after removing duplicates
*********************************************
Red
White
Blue
Yellow
Magenta
Black
Green
```

4.Firstly, an ArrayList is created to store string type of objects. Using add() method ,the list of colors are added to the array list with duplicate names. Using the next() method of iterator the list is traversed and displayed with stored colors in the arraylist. Another collection class HashSet is used and to contain the array list of elements. HashSet does not allow to store duplicate elements and hence the list of colors with out duplicate elements are stored and displayed as output.