

## Worksheet-17

### 136. Single Number

```
import java.util.Arrays;
```

```
// Creating a class for the solution
```

```
class Solution {
```

```
//Passing the array value inside singleNumber method
```

```
public int singleNumber(int[] nums) {
```

```
//Sorting the array using sort method
```

```
Arrays.sort(nums);
```

```
/* Checking array size is equal to 1 which means there is only  
one value and return it */
```

```
if(nums.length==1){
```

```
return nums[0];
```

```
}
```

```
/* Looping inside array from 0 to length-1 as of +2 increment */
```

```
for(int i=0;i<nums.length-1;i+=2){
```

```
/* If n[i] and n[i+1] is not equal return i. As the array is sorted
```

```
* If the number repeat then it will stay next to it hence if there's no match the
```

```
* it is a non-repeating value only. Hence we can return the value*/
```

```

if(nums[i]!=nums[i+1]){
return nums[i];
}
}
return nums[nums.length-1];
}
}

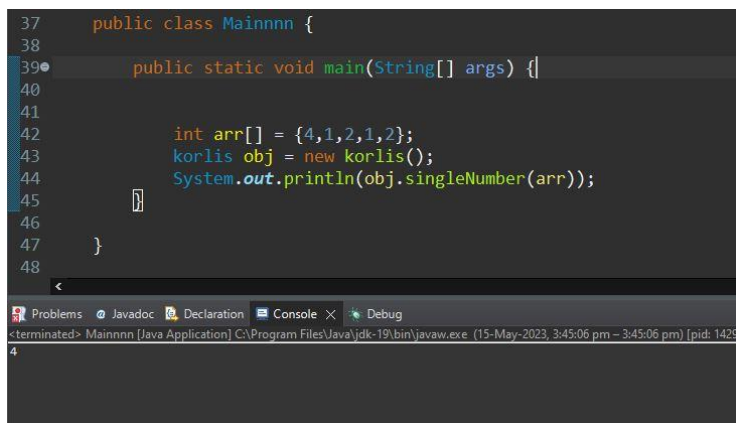
```

```

public class Main {
public static void main(String[] args) {
int arr[] = {4,1,2,1,2};
Solution obj = new Solution();
System.out.println(obj.singleNumber(arr));
}
}

```

## Output:



The screenshot shows an IDE with a Java file named Mainnnn.java. The code is as follows:

```

37 public class Mainnnn {
38
39     public static void main(String[] args) {
40
41         int arr[] = {4,1,2,1,2};
42         korlis obj = new korlis();
43         System.out.println(obj.singleNumber(arr));
44     }
45 }
46
47
48

```

The IDE has tabs for Problems, Javadoc, Declaration, Console, and Debug. The Console tab is active, showing the output of the program:

```

4

```

The status bar at the bottom indicates the program was terminated successfully.

## 60. Permutation Sequence

```
import java.util.ArrayList;
import java.util.List;

// Creating a class for the solution
class Solution {
    public String getPermutation(int n, int k) {

        // Initialize a variable to store the factorial of n
        int fact = 1;

        // Create a list to store the numbers from 1 to n
        List<Integer> numbers = new ArrayList<>();

        // Calculate the factorial of n and add numbers from 1 to n to the list
        for(int i = 1; i < n; i++){
            fact = fact * i;
            numbers.add(i);
        }
        numbers.add(n);

        // Initialize an empty string to store the answer
        String ans = "";

        // Since indexing starts from 0, subtract 1 from k
        k = k - 1;

        // Loop until all numbers have been used
        while(true){

            // Add the number at index k/fact to the answer
```

```

ans = ans + numbers.get(k / fact);

// remove the used number from the list
numbers.remove(k / fact);

// If all numbers have been used, break out of the loop
if(numbers.size() == 0){
    break;
}

// Calculate the remainder of k/fact and assign it to k
k = k % fact;

// divide the factorial by the size of the remaining list
fact = fact / numbers.size();
}

// return the answer
return ans;
}
}

```

```

public class Main {
    public static void main(String[] args) {
        int n = 3;
        int k = 3;

```

```

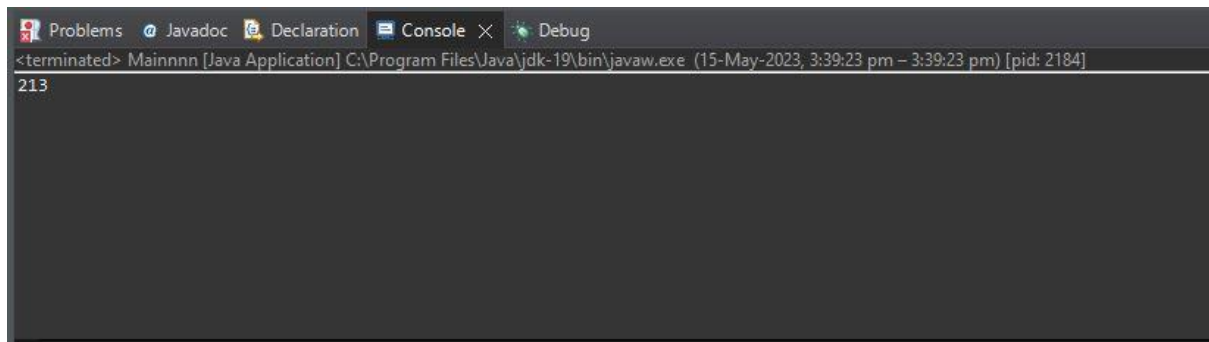
//Create object for the method solution
Solution obj = new Solution ();

//referencing the method using object and passing the value
System.out.println(obj.getPermutation(n,k));
}

}

```

## Output:



The screenshot shows an IDE window with several tabs: Problems, Javadoc, Declaration, Console, and Debug. The Console tab is active, displaying the output of a Java application. The output consists of a single line: "213". Above the output, the console title bar indicates the application has terminated: "<terminated> Mainnnn [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe (15-May-2023, 3:39:23 pm - 3:39:23 pm) [pid: 2184]".

```
<terminated> Mainnnn [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe (15-May-2023, 3:39:23 pm - 3:39:23 pm) [pid: 2184]  
213
```