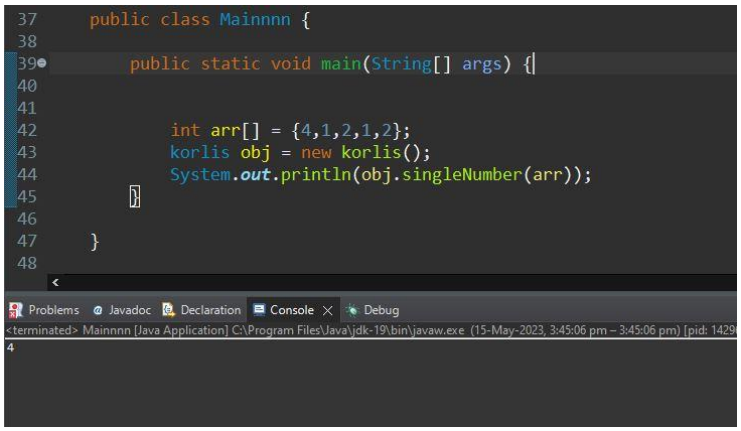
Worksheet-17

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 ther'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:

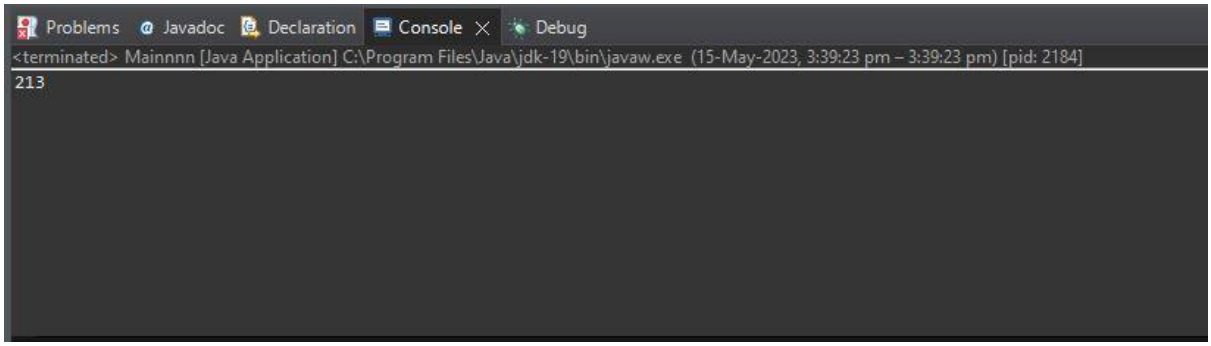


60. Permutation Sequence

```
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:


Problems
Javadoc
Declaration
Console
Debug
<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]
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