Assignment-3

REARRANGE THE GIVEN SORTED ARRAY

CODE:

```java
package Assignment3;
import java.util.Scanner;
public class Rearrangearrayelements {
        public static void main(String[] args) {
            Rearrangearrayelements rearrangeArrayElements = new Rearrangearrayelements();
            rearrangeArrayElements.inputAcceptor();
        }

        // Accept inputs from the console and trigger validation and rearranging
        public void inputAcceptor() {  1 usage
            Scanner scanner = new Scanner(System.in);
            System.out.print("Enter the size of the array: ");
            int size = scanner.nextInt();
            if (inputArraySizeValidator(size)) {
                int[] inputArray = new int[size];
                System.out.println("Enter the elements of the array in sorted order:");
                for (int i = 0; i < size; i++) {
                    inputArray[i] = scanner.nextInt();
                }
                if (inputArrayValidator(inputArray)) {
                    int[] rearrangedArray = computeRearrangedArray(inputArray);
                    displayResult(rearrangedArray);
                } else {
                    displayResult( outputArray: null);
                }
            } else {
                displayResult( outputArray: null);
            }
        }
```

```java
        public boolean inputArraySizeValidator(int size) {  1 usage
            return size > 0;
        }

        public boolean inputArrayValidator(int[] input) {  1 usage
            for (int i = 1; i < input.length; i++) {
                if (input[i] < input[i - 1]) {
                    return false;
                }
            }
            return true;
        }

        // Rearrange the elements of the array alternately
        public int[] computeRearrangedArray(int[] inputArray) {  1 usage
            int[] rearrangedArray = new int[inputArray.length];
            int left = 0, right = inputArray.length - 1;
            for (int i = 0; i < inputArray.length; i++) {
                if (i % 2 == 0) {
                    rearrangedArray[i] = inputArray[right];
                    right--;
                } else {
                    rearrangedArray[i] = inputArray[left];
                    left++;
                }
            }
            return rearrangedArray;
        }
```

```
60
61          public void displayResult(int[] outputArray) {  3 usages
62              if (outputArray == null) {
63                  System.out.println("Give proper input.");
64                  return;
65              }
66              System.out.println("Rearranged array:");
67              for (int num : outputArray) {
68                  System.out.print(num + " ");
69              }
70          }
71      }
72
73
```

Output1:

Output2:

Output3: