

### Problem Statement:

You have been hired as a Java developer to create a program that can perform some logical operations on an array of integers. Your task is to create a Java program that implements the following requirements:

1. The program must take an array of integers as input.
2. The program must be able to find the maximum and minimum elements in the array.
3. The program must be able to find the sum and average of all the elements in the array.
4. The program must be able to find the second highest and second lowest elements in the array.
5. The program must be able to check whether the array contains duplicate elements or not.
6. The program must be able to remove all the duplicate elements from the array and return the new array.

You need to implement the following methods:

1. **findMaximum(int[] arr)** - This method should find the maximum element in the array and return it.
2. **findMinimum(int[] arr)** - This method should find the minimum element in the array and return it.
3. **findSum(int[] arr)** - This method should find the sum of all the elements in the array and return it.
4. **findAverage(int[] arr)** - This method should find the average of all the elements in the array and return it.
5. **findSecondHighest(int[] arr)** - This method should find the second highest element in the array and return it.
6. **findSecondLowest(int[] arr)** - This method should find the second lowest element in the array and return it.
7. **checkForDuplicates(int[] arr)** - This method should check whether the array contains any duplicate elements or not. If it contains duplicates, it should return true, else it should return false.
8. **removeDuplicates(int[] arr)** - This method should remove all the duplicate elements from the array and return the new array.

You can assume that the array will not be empty and will contain at least one element.

Your Java program should have a main method that takes user input in the form of an array of integers and calls the above methods to perform the required logical operations. The program should display the results of each operation.