# Program for Maximum Value of a String in an Array

```
import java.util.Collections;
import java.util.ArrayList;
public class MaximumValueArray {

    public static int maximumValue(String[] strs) {
             ArrayList<Integer> values = new ArrayList<>();
            // Iterate through the array of strings
            for (String s : strs) {
                int len = s.length();
                int countLetter = 0;
                int countDigit = 0;

                // Count the number of letters and digits in the string
                for (int i = 0; i < len; i++) {
                    char ch = s.charAt(i);
                    if (Character.isLetter(ch)) {
                        countLetter++;
                    } else if (Character.isDigit(ch)) {
                        countDigit++;
                    }
                }

                // Check if the string contains only digits
                if (countDigit == len) {
                    // If it contains only digits, parse it as an integer and add to
the list

                    int n = Integer.parseInt(s);
                    values.add(n);
                } else {
                    // If it contains letters or a combination of letters and digits,
                    // add its length to the list
                    values.add(len);
                }
            }

            // Find and return the maximum value in the list
            return Collections.max(values);
        }

        public static void main(String[] args) {

            String[] strs = {"alic3", "bob", "3", "4", "00000"};
            int maxValue = maximumValue(strs);
            System.out.println("Maximum value in the array: " + maxValue);
        }
    }
```

## OUTPUT

**Maximum value in the array: 5**

# Program for Distinct Prime Factors of Product of Array

```
import java.util.HashSet;
import java.util.Set;
public class DistinctPrimeFactors {

        public static int distinctPrimeFactors(int[] nums) {
            Set<Integer> set = new HashSet<>();

            // Find all the prime factors of the elements in array nums
            for (int num : nums) {
                for (int i = 2; i <= num; i++) {
                    while (num % i == 0) {
                        set.add(i); // Add the prime factor to the set
                        num = num / i; // Reduce num by dividing it with the prime
factor
                    }
                }
            }

            return set.size(); // Return the size of the set containing distinct
prime factors
        }
        public static void main(String[] args) {

            int[] nums = {2,4,3,22,5,7,10,6};
            int distinctFactorsCount = distinctPrimeFactors(nums);

            System.out.println("Result : " + distinctFactorsCount);
        }
    }
```

## OUTPUT

## Result : 5