```java
/*
Student Name : Abhang Rushikesh
Roll NO : BEA-30
 */
import java.util.Arrays;
import java.util.Scanner;
public class Main {

        // Function to partion the array on the basis of the pivot value;

        static int partition(int[] array, int low, int high) {

            int pivot = array[low];
            int start = low;
            int temp;

            while(low < high)
            {
                while(low <= high && array[low] <= pivot)
                    low++;
                while(high >= low && array[high] > pivot)
                    high--;
                System.out.print("Low:"+low+"High:"+high);


                if(low < high)
                {
                    temp = array[low];
                    array[low] = array[high];
                    array[high] = temp;
                }
            }
            temp = array[start];
            array[start] = array[high];
            array[high] = temp;

            return high;
        }

        // Function to implement quick sort

        static void quickSort(int[] array,int low,int high){

            if(low<high){

                int loc = partition(array,low,high);

                if(loc > 0)
                {
                    quickSort(array,low,loc-1);
                    System.out.println(Arrays.toString(array));
                }
                if(loc < array.length-1)
                {
                    quickSort(array,loc+1,high);
                    System.out.println(Arrays.toString(array));
                }
```

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        }
    }

    // Function to read user input
    public static void main(String[] args) {
        Scanner sc=new Scanner(System.in);
        int size;
        System.out.print("Enter the size of the array:");
        size = Integer.parseInt(sc.nextLine());
        int[] array = new int[size];
        System.out.println("Enter array elements");
        int i;
        for (i = 0; i < array.length; i++) {
            array[i] = Integer.parseInt(sc.nextLine());
        }
        System.out.println("The initial array is");
        System.out.println(Arrays.toString(array));
        quickSort(array,0,array.length-1);
        System.out.println("The sorted array is");
        System.out.println(Arrays.toString(array));
    }
}
```