Assignment-9

Implement the Quick Sort algorithm in Java to sort an array of integers in ascending order.

```
package datastructures.sort;


public class QuickSortDemo {


	static void swap(int arr[], int i, int j) {
		int temp=arr[i];
		arr[i]=arr[j];
		arr[j]=temp;
	}


	static int partition(int[] arr,int low,int high) {
		int pivot=arr[high];
		int i=(low-1);
		for(int j=low;j<=high;j++) {
			if(arr[j]<pivot) {
				i++;
```

```
                swap(arr,i,j);
            }
        }
        swap(arr,i+1,high);
        return (i+1);
    }

    static void quicksort(int[] arr,int low,int high) {
        if(low<high) {
            int pi=partition(arr,low,high);
            quicksort(arr,low,pi-1);
            quicksort(arr,pi+1,high);
        }
    }

    public static void printArr(int[] arr) {
        for(int i=0;i<arr.length;i++) {
            System.out.print(arr[i]+" ");
        }
    }
```

```
    public static void main(String[] args) {
        int arr[]= {10,7,3,6,2,5,1};
        int N=arr.length;
        quicksort(arr,0,N-1);
        System.out.println("Sorted arary is : ");
        printArr(arr);

    }

}
```