

Rotate array by K elements

- For Rotating Elements to left

Step 1: Reverse the first k elements of the array

Step 2: Reverse the last n-k elements of the array.

Step 3: Reverse the whole array.

For Eg , arr[]={1,2,3,4,5,6,7} , k=2

```
import java.util.*;
public class Main {
    // Function to Reverse the array
    public static void Reverse(int[] arr, int start, int end) {
        while (start <= end) {
            int temp = arr[start];
            arr[start] = arr[end];
            arr[end] = temp;
            start++;
            end--;
        }
    }
    // Function to Rotate k elements to left
    public static void Rotateeleteleft(int[] arr, int n, int k)
    {
        // Reverse first k elements
        Reverse(arr, 0, k - 1);
        // Reverse last n-k elements
        Reverse(arr, k , n - 1);
        // Reverse whole array
```

```
Reverse(arr, 0, n - 1);  
}  
public static void main(String args[]) {  
    int[] arr = {1,2,3,4,5,6,7};  
    int n = 7;  
    int k = 2;  
    Rotateeleft(arr, n, k);  
    System.out.print("After Rotating the k elements to left  
");  
    for (int i = 0; i < n; i++)  
        System.out.print(arr[i] + " ");  
    System.out.println();  
}  
}
```

Output:

After Rotating the k elements to left 3 4 5 6 7 1 2

Time Complexity - $O(N)$ where N is the number of elements in an array

Space Complexity - $O(1)$ since no extra space is required