**Practice 02:**

**Implementation of Quick Sort**

Code:

import java.io.\*;

class Solution{

// function for swapping two elements

static void swap(int[] arr, int i, int j)

{

int temp = arr[i];

arr[i] = arr[j];

arr[j] = temp;

}

//Pratition function

static int partition(int[] arr, int low, int high)

{

// pivot

int pivot = arr[high];

int i = (low - 1);

for(int j = low; j <= high - 1; j++)

{

if (arr[j] < pivot)

{

i++;

swap(arr, i, j);

}

}

swap(arr, i + 1, high);

return (i + 1);

}

//Function for quick sort

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);

}

}

// Function to print an array

static void printArray(int[] arr, int size)

{

for(int i = 0; i < size; i++)

System.out.print(arr[i] + " ");

System.out.println();

}

// Main Function

public static void main(String[] args)

{

int[] arr = { 10, 7, 8, 9, 1, 5 };

int n = arr.length;

quickSort(arr, 0, n - 1);

System.out.println("Sorted array: ");

printArray(arr, n);

}

}