**NAME: Kithani Ekta ROLL NO:30 CLASS:D7A**

**#include <stdio.h>**

**void quicksort (int [], int, int);**

**void main()**

**{**

**int list[50],size, i;**

**printf("Enter the number of elements: ");**

**scanf("%d", &size);**

**printf("Enter the elements to be sorted:\n");**

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

**{**

**scanf("%d", &list[i]);**

**}**

**quicksort(list, 0, size - 1);**

**printf("After applying quick sort\n");**

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

**{**

**printf("%d ", list[i]);**

**}**

**printf("\n");**

**}**

**void quicksort(int list[], int low, int high)**

**{**

**int pivot, i, j, temp;**

**if (low < high)**

**{**

**pivot = low;**

**i = low;**

**j = high;**

**while (i < j)**

**{**

**while (list[i] <= list[pivot] && i <= high)**

**{**

**i++;**

**}**

**while (list[j] > list[pivot] && j >= low)**

**{**

**j--;**

**}**

**if (i < j)**

**{**

**temp = list[i];**

**list[i] = list[j];**

**list[j] = temp;**

**}**

**}**

**temp = list[j];**

**list[j] = list[pivot];**

**list[pivot] = temp;**

**quicksort(list, low, j - 1);**

**quicksort(list, j + 1, high);**

**}**

**}**

**Output:**

