

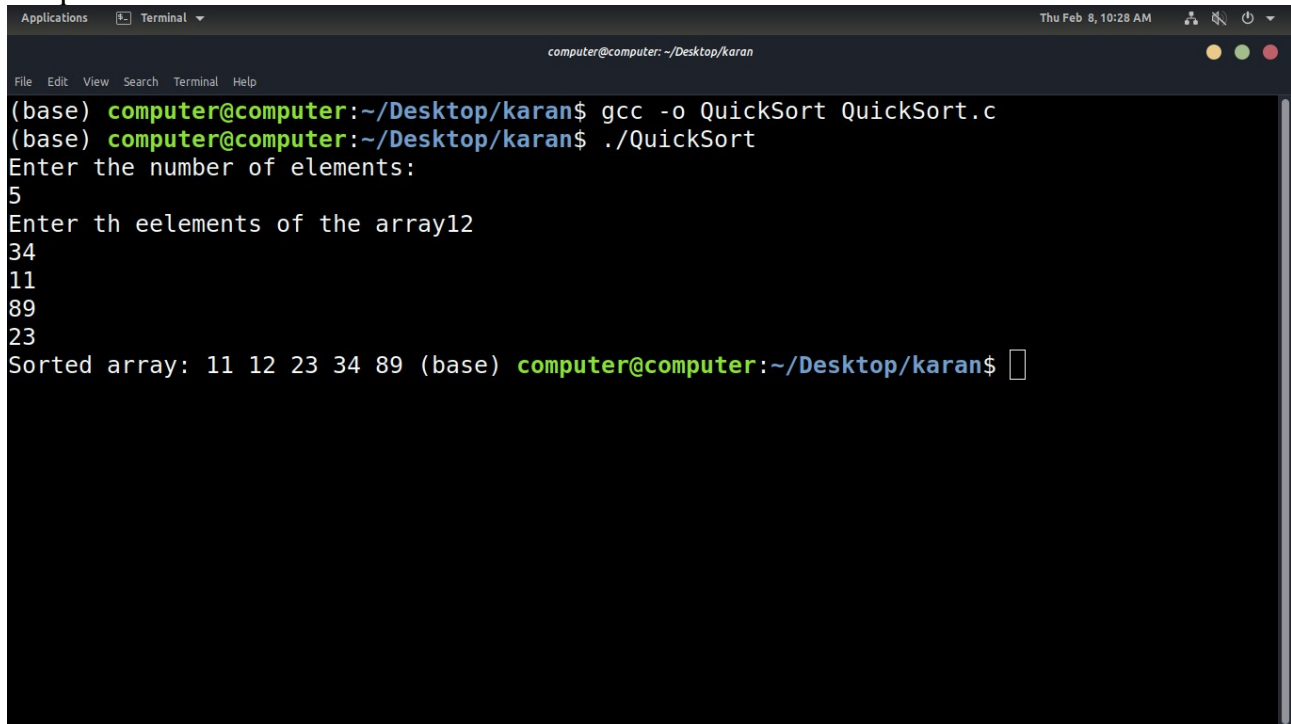
## Experiment 2

```
#include<stdio.h>
int partition(int arr[], int low, int high){
    int pivot = arr[low];
    int k = high;
    for(int i = high; i>low;i--){
        if(arr[i] > pivot){
            int temp = arr[i];
            arr[i] = arr[k];
            arr[k] = temp;
            k--;
        }
    }
    int temp = arr[k];
    arr[k] = arr[low];
    arr[low] = temp;
    return k;
}

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);
    }
}

int main(){
    int n;
    printf("Enter the number of elements:\n");
    scanf("%d",&n);
    int arr[n];
    printf("Enter the elements of the array");
    for(int i=0;i<n;i++){
        scanf("%d",&arr[i]);
    }
    quickSort(arr,0,n-1);
    printf("Sorted array: ");
    for(int i=0;i<n;i++){
        printf("%d ",arr[i]);
    }
}
```

## Output:



```
Applications  Terminal  Thu Feb 8, 10:28 AM  computer@computer: ~/Desktop/karan
File Edit View Search Terminal Help
(base) computer@computer:~/Desktop/karan$ gcc -o QuickSort QuickSort.c
(base) computer@computer:~/Desktop/karan$ ./QuickSort
Enter the number of elements:
5
Enter the elements of the array:
12
34
11
89
23
Sorted array: 11 12 23 34 89 (base) computer@computer:~/Desktop/karan$
```

The image shows a terminal window with a dark background. The title bar at the top indicates the application is 'Terminal' and the current directory is '~/Desktop/karan'. The user has compiled a C program named 'QuickSort.c' into an executable named 'QuickSort' using 'gcc'. They then run the program, which prompts for the number of elements (5) and the elements themselves (12, 34, 11, 89, 23). The program outputs the sorted array: 11 12 23 34 89.