

## Output:

### 1. Bubble Sort

```
C:\Users\PC\Desktop\b.Dsa\Lab 7\BubbleSort.exe
Enter the number of elements: 6
Enter 6 elements: 8
4
7
6
25
84
Original array: 8 4 7 6 25 84
Sorted array: 4 6 7 8 25 84
-----
Process exited after 7.013 seconds with return value 0
Press any key to continue . . .
```

### 2. Selection Sort

```
Select C:\Users\PC\Desktop\b.Dsa\Lab 7\Selection Sort.exe
Enter the number of elements: 5
Enter 5 elements: 2
5
4
7
8
Original array: 2 5 4 7 8
Sorted array: 2 4 5 7 8
-----
Process exited after 5.583 seconds with return value 0
Press any key to continue . . .
```

## Output:

### 3.Insertion Sort

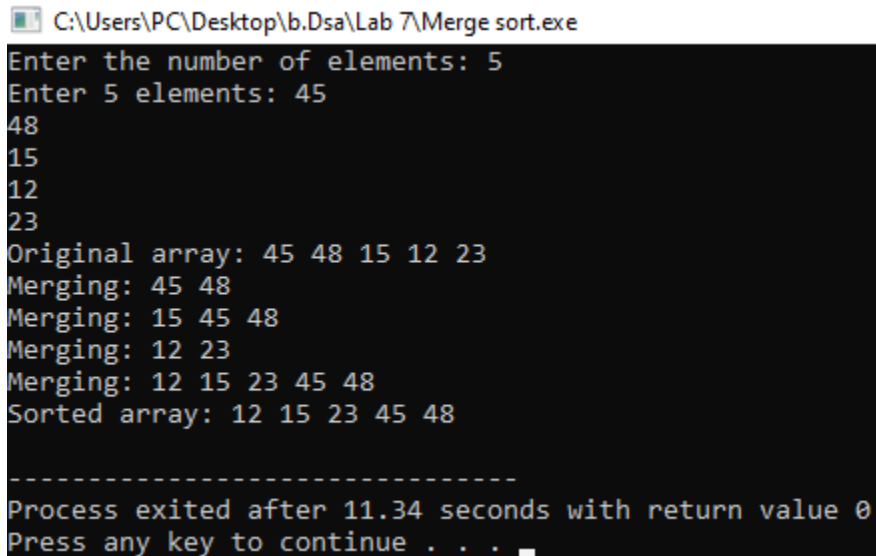
```
C:\Users\PC\Desktop\b.Dsa\Lab 7\Insertion Sort.exe
Enter the number of elements: 6
Enter 6 elements: 5
8
7
1
3
9
Original array: 5 8 7 1 3 9
Sorted array: 1 3 5 7 8 9
-----
Process exited after 8.389 seconds with return value 0
Press any key to continue . . .
```

### 4.Shell sort

```
C:\Users\PC\Desktop\b.Dsa\Lab 7\Shell sort.exe
Enter the number of elements: 7
Enter 7 elements: 56
48
7
1
2
48
569
Original array: 56 48 7 1 2 48 569
Sorted array: 1 2 7 48 48 56 569
-----
Process exited after 11.15 seconds with return value 0
Press any key to continue . . .
```

## Output:

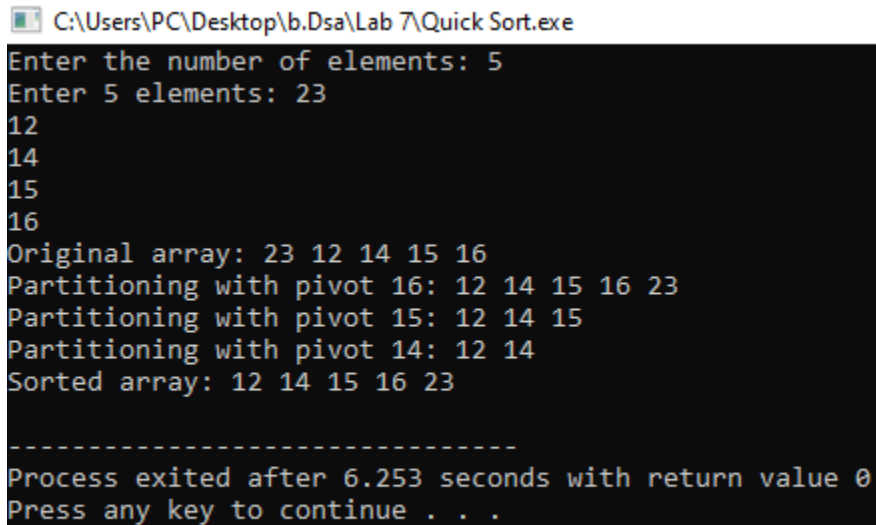
### 5. Merge sort



```
C:\Users\PC\Desktop\b.Dsa\Lab 7\Merge sort.exe
Enter the number of elements: 5
Enter 5 elements: 45
48
15
12
23
Original array: 45 48 15 12 23
Merging: 45 48
Merging: 15 45 48
Merging: 12 23
Merging: 12 15 23 45 48
Sorted array: 12 15 23 45 48

-----
Process exited after 11.34 seconds with return value 0
Press any key to continue . . .
```

### 6. Quick Sort



```
C:\Users\PC\Desktop\b.Dsa\Lab 7\Quick Sort.exe
Enter the number of elements: 5
Enter 5 elements: 23
12
14
15
16
Original array: 23 12 14 15 16
Partitioning with pivot 16: 12 14 15 16 23
Partitioning with pivot 15: 12 14 15
Partitioning with pivot 14: 12 14
Sorted array: 12 14 15 16 23

-----
Process exited after 6.253 seconds with return value 0
Press any key to continue . . .
```

## Output:

### 7.Heap Sort

 C:\Users\PC\Desktop\b.Dsa\Lab 7\Heap sort.exe

```
Enter the number of elements: 5
Enter 5 elements: 23
15
14
78
89
Original array: 23 15 14 78 89
Heapify: 23 89 14 78 15
Heapify: 89 23 14 78 15
Heapify: 89 78 14 23 15
Max Heap built: 89 78 14 23 15
Extract Max (89): 15 78 14 23 89
Heapify: 78 15 14 23
Heapify: 78 23 14 15
Extract Max (78): 15 23 14 78 89
Heapify: 23 15 14
Extract Max (23): 14 15 23 78 89
Heapify: 15 14
Extract Max (15): 14 15 23 78 89
Sorted array: 14 15 23 78 89

-----
Process exited after 6.991 seconds with return value 0
Press any key to continue . . .
```