

S.No: 8

Exp. Name: **Program to sort a list of elements using Heap Sort**

Date:

**Aim:**

Program to sort a list of elements using Heap Sort

**Source Code:**

heapSort.c

```

#include<stdio.h>
void main(){
    int heap[10], no, i, j, c, root, temp;
    printf("enter the no. of element: ");
    scanf("%d", &no);
    printf("Enter elements: ");
    for(i=0; i<no; i++){
        scanf("%d", &heap[i]);
    }
    for(i=1; i<no; i++){
        c=i;
        do{
            root=(c-1)/2;
            if(heap[root]<heap[c]){
                temp=heap[root];
                heap[root]=heap[c];
                heap[c]=temp;
            }
            c=root;
        }while (c!=0);
    }
    for (j=no-1; j>=0;j--){
        temp=heap[0];
        heap[0]=heap[j];
        heap[j]=temp;
        root=0;
        do{
            c=2*root+1;
            if((heap[c]<heap[c+1])&&c<j-1)
                c++;
            if(heap[root]<heap[c]&&c<j){
                temp=heap[root];
                heap[root]=heap[c];
                heap[c]=temp;
            }
            root=c;
        }while(c<j);
    }
    for(i=0;i<no; i++)
        printf("%d\t", heap[i]);
}

```

Execution Results - All test cases have succeeded!

Test Case - 1		
User Output		
enter the no. of element: 3		
Enter elements: 45 6 12		
6	12	45

