

C Program to implement Heap Sort

```
#include <stdio.h>

#include<conio.h>

void main()

{

    int heap[10], array_size, i, j, c, root, temporary;

    clrscr();

    printf("\n Enter size of array to be sorted :");

    scanf("%d", &array_size);

    printf("\n Enter the elements of array : ");

    for (i = 0; i < array_size; i++)

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

    for (i = 1; i < array_size; i++)

    {

        c = i;

        do

        {

            root = (c - 1) / 2;

            if (heap[root] < heap[c])

            {

                temporary = heap[root];
```

```

        heap[root] = heap[c];

        heap[c] = temporary;

    }

    c = root;

} while (c != 0);

}

printf("Heap array : ");

for (i = 0; i < array_size; i++)

    printf("%d\t ", heap[i]);

for (j = array_size - 1; j >= 0; j--)

{

    temporary = heap[0];

    heap[0] = heap[j] ;

    heap[j] = temporary;

    root = 0;

    do

    {

        c = 2 * root + 1;

        if ((heap[c] < heap[c + 1]) && c < j-1)

            c++;

        if (heap[root]<heap[c] && c<j)

```

```
{  
    temporary = heap[root];  
    heap[root] = heap[c];  
    heap[c] = temporary;  
}  
    root = c;  
} while (c < j);  
}  
  
printf("\n The sorted array is : ");  
  
for (i = 0; i < array_size; i++)  
    printf("\t %d", heap[i]);  
}
```