HEAP SORT

```
#include <stdio.h>
void heapify(int a[],int n,int i) {
    int largest=i;
    int left=2*i+1;
    int right=2*i+2;
    if (left<n&&a[left]>a[largest])
        largest=left;
    if (right<n&&a[right]>a[largest])
        largest=right;
    if (largest!=i){
        int temp=a[i];
        a[i]=a[largest];
        a[largest]=temp;
        heapify(a,n,largest);
    }
}
void binaryHeapSort(int a[],int n){
    for (int i=n/2-1;i>=0;i--)
        heapify(a,n,i);
    for (int i=n-1;i>0;i--){
        int temp=a[0];
        a[0]=a[i];
        a[i]=temp;
        heapify(a,i,0);
    }
}
int main(){
    int a[100],n;
    printf("Enter number of elements: ");
    scanf("%d",&n);
    printf("Enter elements: ");
    for (int i=0;i<n;i++)
        scanf("%d",&a[i]);
    binaryHeapSort(a,n);
    printf("Sorted array: ");
    for (int i=0;i<n;i++)
        printf("%d ",a[i]);
    return 0;
}
```

OUTPUT:

```
Enter number of elements: 5
Enter elements: 1
2
4
6
9
Sorted array: 1 2 4 6 9
--------------------------------
Process exited after 66.77 seconds with return value 0
Press any key to continue . . .
```