

//Created by Ritwik Chandra Pandey on 6/11/21
//Shell Sort

```
#include <stdio.h>
#include <conio.h>
int shellSort(int arr[],int n){
    int gap,temp;
    for(gap = n/2;gap>0;gap=gap/2){
        for(int i=gap;i<n;i++){
            temp = arr[i];
            int j;
            for(j=i;j>=gap && arr[j-gap]>temp;j=j-gap){
                arr[j] = arr[j-gap];
            }
            arr[j] = temp;
        }
    }
}

void printArray(int arr[],int n){
    for(int i=0;i<n;i++){
        printf("%d ",arr[i]);
    }
    printf("\n");
}

int main() {
    int size;
    int *arr, i;
    printf("Enter array size : ");
    scanf("%d",&size);
    arr = (int*) malloc(size * sizeof(int));
    printf("Enter %d elements : ",size);
    for (i = 0; i < size; i++) {
        scanf("%d", &arr[i]);
    }
    printf("Before sorting the elements are : ");
    printArray(arr,size);

    shellSort(arr,size);
}
```

```
    printf("After sorting the elements are : ");  
    printArray(arr,size);  
    return 0;  
}
```