

# heap

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#include <stdio.h>

int minheap[200005],ht=-1;

void MinHeapInsert(int x){
    int i=ht+1;
    ht=ht+1;
    while (i!=0&&x<minheap[(i-1)/2]){
        minheap[i]=minheap[(i-1)/2];
        i=(i-1)/2;
    }
    minheap[i]=x;
}

void MinHeapDelete(){
    minheap[0]=minheap[ht--];
    int tem=minheap[0];
    int i=0,son=1;
    while (son<=ht){
        if(son<ht&&minheap[son]>minheap[son+1]) son++;
        if(tem<minheap[son]) break;
        minheap[i]=minheap[son];
        i=son;
        son=2*son+1;
    }
    minheap[i]=tem;
}

void MinHeapPop(){
    printf("%d\n",minheap[0]);
}

int main(){
    int n,op,x;
    scanf("%d",&n);
    while (n--){
        scanf("%d",&op);
        if(op==1){
            scanf("%d",&x);
            MinHeapInsert(x);
        }
        else if(op==2) MinHeapDelete();
        else if(op==3) MinHeapPop();
    }
    while (ht>=0){
        printf("%d ",minheap[0]);
        MinHeapDelete();
    }
    return 0;
}
```

