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\* HeapSort.c 堆排序算法

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#include <stdio.h>

void swap(int k[],int i, int j)

{

int temp;

temp = k[i];

k[i] =k[j];

k[j] = temp;

}

void HeapAdjust(int k[],int s,int n)

{

int i,temp;

temp = k[s];

for(i=2\*s;i<=n;i\*=2)

{

if(i<n&&k[i]<k[i+1])

{

i++;

}

if(temp>=k[i])

{

break;

}

k[s] = k[i];

s = i;

}

k[s] = temp;

}

void HeapSort(int k[],int n)

{

int i;

for(i=n/2;i>0;i--)

{

HeapAdjust(k,i,n);

}

for(i=n;i>1;i--)

{

swap(k,1,i);

HeapAdjust(k,1,i-1);

}

}

int main()

{

int i,a[10] = {-1,5,2,6,0,3,9,1,7,4};

HeapSort(a,9);

printf("\n Sort by Heap:\n");

for(i=1;i<10;i++)

{

printf("%d",a[i]);

}

printf("\n\n");

return 0;

}

**总结：**

**时间复杂度：O(n\*logn)**