http://blog.csdn.net/morewindows/article/details/6709644

// 建立大顶堆

/\*\*

\* 将索引号为k的数在n个节点的数组中下沉

\*/

void shiftDown(int\* num, int k, int n)

{

if (num == nullptr || n <= 1) return;

int j = 2 \* k + 1;

int temp = num[k];

while (j < n)

{

if (j + 1 < n && num[j + 1] > num[j]) j++;

if (temp > num[j]) break;

num[k] = num[j];

k = j;

j = 2 \* j + 1;

}

num[k] = temp;

}

void initHeap(int\* num, int n)

{

for (int i = (n - 1) / 2; i >= 0; i--)

{

shiftDown(num, i, n);

}

}

void show(int\* num, int n)

{

for (int i = 0, size = n; i < size; i++)

{

cout << num[i] << " ";

}

cout << endl;

}

void heapsort(int\* num, int n)

{

initHeap(num, n);

for (int i = n - 1; i > 0; i--)

{

// swap first and last element

int temp = num[0];

num[0] = num[i];

num[i] = temp;

shiftDown(num, 0, i);

}

show(num, n);

}

int num[] = { 2, 4, 7, 5, 1, 3 };

heapsort(num, sizeof(num) / sizeof(int));

