**Quick i heap**

* **Sortovi**

//quick sort

procedure qsort(var e:niz; d,g:longint);

var i,j,p,mesto:longint;

begin

if d<g then

begin

i:=d; j:=g; mesto:=e[d];

while (i<j) do

begin

while(e[i]<=mesto) and (i<j) do i:=i+1;

while(e[j]>mesto) do j:=j-1;

if(i<j) then

begin

p:=e[i]; e[i]:=e[j]; e[j]:=p;

end;

end;

e[d]:=e[j]; e[j]:=mesto;

qsort(e,d,j-1);

qsort(e,j+1,g);

end;

end;

//obrnuti quick sort

procedure qsort(var c:niz; l,r:longint);

var i,j,x,y:longint;

begin

i:=l;

j:=r;

x:=c[(l+r) div 2 ];

repeat

while c[i]>x do inc(i);

while c[j]<x do dec(j);

if i<=j then

begin

y:=c[i];

c[i]:=c[j];

c[j]:=y;

inc(i);

dec(j);

end;

until i>j;

if l<j then qsort(l,j,c);

if i<r then qsort(i,r,c);

end;

//heap sort

procedure heapsort(var a:niz);

var h,s,f,l:longint;

begin

for i:=2 to n do

begin

h:=a[i]; s:=i; f:=s shr 1;

while ((s>1) and (a[f]<h)) do

begin

a[s]:=a[f]; s:=f; f:=s shr 1;

end;

a[s]:=h;

end;

for i:=n downto 2 do

begin

l:=a[i]; a[i]:=a[1]; f:=1;

if ((i-1>=3) and (a[3]>a[2]))

then s:=3 else s:=2;

while (s<=i-1) and (a[s]>l) do

begin

a[f]:=a[s]; f:=s; s:=2\*f;

if ((s+1<=i-1) and (a[s+1]>a[s]))

then s:=s+1;

end;

a[f]:=l;

end;

end;