

Heap Sort

```
proc heapsort(A: list, n: list size)
  {Create heap}
  for r =  $\lfloor n/2 \rfloor$  downto 1 do
    sift(r,n)
  end for
  {Finish Sort}
  for m = n downto 2 do
    A[1]  $\leftrightarrow$  A[m]
    sift(1,m-1)
  end for
end proc
```

```
proc sift(p: root, m: size of list)
  c  $\leftarrow$  2*p
  while c  $\leq$  m do
    if c < m then
      if A[c+1] > A[c] then c  $\leftarrow$  c+1 end if
    end if
    if A[c] > A[p] then
      A[p]  $\leftrightarrow$  A[c]
      p  $\leftarrow$  c
      c  $\leftarrow$  2*p
    else
      exit while loop
    end if
  end while
end proc
```