

hw4

PB21111733

牛庆源

P265 算法 10.6.

(1) $O(n/p)$ (2) (2.1) $O(1)$ (2.2) $O(n/p)$ (2.3) $O(1)$ (2.4) (MAX) $\log(p-1) = O(\log p)$ (2.5) $O(n)$ (2.6) (BROADCAST) $t_s + n t_w \log p$ (2.7) $O(n^2/p)$ $R_n(2) \quad O(n^3/p + (t_s + n t_w) n \log p)$ (3) $O(n/p)$

$$T = n^3/p + (t_s + n t_w) n \log p$$

$$O(n^3/p)$$

P309 11.5

Begin

(1) for $k=0$ to $n-1$ do

$$C_k = a_k$$

end-for

(2) for $h=\log(n-1)$ to 0 do

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(2.1)  $p = 2^h$ 
(2.2)  $q = n/p$ 
(2.3)  $z = w^{q/2}$ 
(2.4) for  $k = 0$  to  $n-1$  do
    if  $(k \bmod p = k \bmod (2p))$  then
         $temp = c_k$ 
        (i)  $c_k = c_k + c_{k+p}$ 
        (ii)  $c_{k+p} = (temp - c_{k+p}) * z^{k \bmod p}$ 
    endif
endfor
endfor
(3) for  $k = 1$  to  $n-1$  do
     $b_{r(k)} = c_k/n$ 
endfor
end

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