??
??
$O(n^2)$
S
DFT

$$A(S) = DFT^{-1}[DFT\{S\}DFT\{S\}^*] \tag{1}$$

$DFT\{S\}^*$
$DFT\{S\}$
?
$O(NlogN)$
??
ni
n
$O(nm)$
$m <$
$log(n)$
p
$O(mp)$
$O(nlog(n))$
??
n
m_m
n
$n^{(m-1)}$
S
n
$shift$
??

$$HA(S)_\tau = \sum_{i=0}^{n} HAComponent(S_\tau, shift(S, \tau)_\tau) \tag{2}$$

$HAComponent$

$$HAComponent(c1, c2) = \begin{cases} 1 & c1 = c2 \\ 0 & \text{otherwise} \end{cases} \tag{3}$$

$_b ranch_b ound.png$
??
$_a nd_b ound.py0100ACythonimplementationofthebranchandboundalgorythm.Noticetheamountofextracodetoachive Cper$
??
$_t asks.png$
??
n^{l-t}
n
l
t
t
l
??
??
$_p arallelism_m aster.py0100APythonimplementationofthemasterproccess$
$_p arallelism_s lave.py0100APythonimplementationofanslaveproccess$
$pythonmain.py-$
$-helpusage:$
$pythonmain.py[option...]$
$pythonmain.py-$
$s5-$
$l23-$
$t20-$
$c7-$
$h3-$
$v2020-$
$08-$
$2319:$
$27:$
$49[1]:$
$TASK_ASSIGNED[0,0,1]9ms2020-$
$08-$
$2319:$
$27:$
$49[3]:$
$TASK_ASSIGNED[0,0,3]10ms2020-$
$08-$
$2319:$
$27:$
$49[5]:$
$TASK_ASSIGNED[0,0,5]6ms2020-$
$08-$
$2319:$
$27:$
$49[7]:$
$TASK_ASSIGNED[0,1,1]17ms2020-$
$08-$
$2319:$
$27:$
$49[6]:$
$TASK_ASSIGNED[0,1,0]3ms2020-$
$08-$
$2319:$
$27:$
$49[2]:$
$TASK_ASSIGNED[0,0,2]0ms...2020-$
$08-$