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def bisectionEXP(left,right) :
     $P_L, P_R = P_{opt}(left), P_{opt}(right)$ 
    if ( $left \leq right$ ) and ( $P_L \neq P_R$ ) :
         $mid = \frac{left+right}{2}$ 
         $P_M = P_{opt}(mid)$ 
        if ( $P_L \neq P_M$ ) :
            bisectionEXP(left, mid)
        if ( $P_R \neq P_M$ ) :
            bisectionEXP(mid, right)

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def *AdaNEXUS*( $CC_i$ ) :

$S_{now}, P_{now} = InitializeSeed(CC_i)$

$C_{now} = Cost(P_{opt}, S_{now})$

$step, \Delta_{now} = 1, [0, -1]$

while (There exist next point) :

$S_{proxy} = S_{now} + step * \Delta_{now}$

$C_{proxy}, P_{proxy} = Cost(P_{opt}, S_{proxy})$

$S_{next}, \Delta_{next} = Correct(CC_i, C_{proxy})$

$C_{next}, P_{next} = Cost(P_{opt}, S_{next})$

if ( $\max\left(\frac{C_{next}}{CC_i}, \frac{CC_i}{C_{next}}\right) \leq (1 + \alpha)$ ) :

$\Delta_{now} = TuneDir(\Delta_{now}, \Delta_{next}, step)$

$bisectionEXP(S_{now}, S_{next})$

$S_{now}, step = S_{next}, 2 * step$

else :

if  $step > 1$  :

$step = step / 2$

else :

$\Delta_{now} = Rotate(S_{now}, CC_i)$