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????????

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$_{u}nreduce.png$

$_{u}nreduce_{p}assed.png$

??????

$_{r}educe.png$

$_{r}educe_{p}assed.png$

?????

$\geqslant 45$

$\geqslant 40$

$\geqslant 35$

$\geqslant 30$

$\geqslant 25$

$\geqslant 55$

$\geqslant 50$

$\geqslant 45$

$\geqslant 40$

$\geqslant 35$

??

$t_i(min)$

??$a_{ij}ija_{ij}$??

$ija_i^jjia_j^i = 1a_i^j$

$$DRRS = ERL^{0.1031} \times CLRS^{0.6053} \times TUL^{0.2915} \tag{1}$$

??C_1

C_1

C_2

C_3

C_4

C_5

$DRRS^kkDRRS_i^kkiDRRS^kk$

$g^kkTYRPNPNPN$

$$g^k = (T - PN \times YR) \times \frac{DRRS^k}{\sum_{i=1}^{PN} DRRS^i} \tag{2}$$

?

I_iAGT_it??$I_it_iI_iT_i{}'T_iI_i[t_i - \delta_i, t_i + \delta_i]L_iT_i{}'n_iI_itt_iT_i{}'n_i$??$P_in_i + 1T_i{}'t_i$??$P_i$

$$n_i = \left\lfloor \frac{t_i - t - L_i}{T_i{}'} \right\rfloor \tag{3}$$

$$P_i = t_i - t - L_i - n_i \times T_i{}' \tag{4}$$

??$Q_iN_i^tI_iS_iI_iA_iI_iS_iA_i$

$$Q_i = \frac{N_i^t}{S_i - Ai} \tag{5}$$

??$\Delta w_iI_iQ_iT_{lost}n_i + 1$

I_i

Δiv_i

$$\Delta w_i = \Delta i \times (Q_i + (n_i + 1) \times T_{lost} + YT) \tag{6}$$

?

$PNTPg_i^kI_ikt_i\delta_iI_iL_itYR_iv_i$

$\beta T_i{}^{min}Ti^{max}I_i\tau_i^{min}\tau_i^{max}I_i$

$g_i^{1'} \dots g_i^{PN'}$

$kiT_iT_i{}'v_in_ii$

$$\min_{(T_i', g_i^{k'})} \left((T_i' - T_i)^2 + \beta \sum_{k=1}^{PN} \left(g_i^{k'} - g_i^k \right)^2 \right) \tag{7}$$

$_i =$

$\sum_{k=1}^{PN} \left(g_i^k + SIT \right), T_i' =$

$\sum_{k=1}^{PN} \left(g_i^{k'} + SIT \right)$

$EAT =$

$\sum_{k=1}^{TP-1} \left(g_i^{k'} + SIT \right)$

$LAT =$