$$\boxed{T(n) = 7T(n-1) - 14T(n-2) + 8T(n-3)} + n + n2^n + 5 \times 4^n$$

Primer paso

$$r^3 - 7r^2 + 14r - 8 = 0$$

$$\left(\begin{array}{l} r = 1 \\ r = 2 \\ r = 3 \end{array} \right)$$

Segundo paso

$$\boxed{T^h(n) = A + B2^n + C3^n}$$

Solucion particular $F(n) = n + n2^n + 5 \times 4^n$

$(Dn+E) + (Fn+g)2^n \quad H4^n$

1^n

$$T^p(n) = \boxed{Dn^2 + En + Fn^2 2^n + gn2^n + H4^n}$$

$$Dn^2 + En + Fn^2 2^n + gn2^n + H4^n = 7\left(D(n-1)^2 + E(n-1) + F(n-1)^2 \frac{2^n}{2} + g\frac{(n-1)2^n}{2} + \frac{H4^n}{4} \right)$$

$$-14\left(D(n-2)^2 + E(n-2) + F(n-2)^2 \frac{2^n}{4} + g\frac{(n-2)2^n}{4} + \frac{H4^n}{16} \right) + 8\left(D(n-3)^2 + E(n-3) + F(n-3)^2 \frac{2^n}{8} + g\frac{(n-3)2^n}{8} + \frac{H4^n}{64} \right)$$

$$n + n2^n + 5 \times 4^n$$

cte	$n^2 2^n$	4^n
n	$n2^n$	
n^2	2^n	

$$T(n) = T\left(\frac{n}{2}\right) + 41T\left(\frac{n}{4}\right) + 105T\left(\frac{n}{8}\right) + n + \log(n) + 2^n$$

2^2 $\qquad$ 2^3

$n = 2^k$

discreto

$$T_k = T_{k-1} + 41T_{k-2} + 105T_{k-3} + 2^k + k + 4^k$$

1) $r^3 - r^2 + 41r - 105 = 0$

$r_1 = 3$

$r_2 = 5$

$r_3 = -7$

$= (7^k) \neq (-7)^k$

$$T_k^{(h)} = A(3)^k + B(5)^k + C(-7)^k$$

2) $2^k + k + 4^k$

$$T_k^{(p)} = D2^k + Ek + F + G4^k$$

3) Remplazar en la Ec original algebra

$$T_k = T_{k-1} + 41T_{k-2} + 105T_{k-3} + 2^k + k + 4^k$$

S = 2 D, I, C, R, E, T, A

Palabra DISCRETAS

Palabras tamaño 7, 8 y 9

$P^{9}_{(7)} = \frac{9!}{2!}$

$C(9,2) + C(8,1)C(7,1)$

$C(6,1)C(5,1)C(4,1)$

$\cdots C(3,1)$

8 letras

1 S $\quad 8!$

8 $\quad \frac{C(7,1)\,8!}{2!}$

6 letras

SS○ $\quad C(7,1)\,6!$

S□ $\quad C(7,2)\,6!$

□ $\quad \frac{C(7,3)\,6!}{2!}$

7 letras

SS $\quad 7!$

S(–) $\quad C(7,1)\,7!$

— — $\quad C(7,2)\frac{7!}{2!}$

5 letras

SS□ $\quad C(7,3)\,5!$

S□ $\quad C(7,3)\,5!$

□ $\quad \frac{C(7,4)\,5!}{2!}$

C = 2 F = 3 O, R, S, T

Tamaño 9 $\quad \frac{9!}{2!\,3!}$

Tamaño 8

C $\quad \frac{8!}{3!}$ $\qquad$ F $\quad \frac{8!}{2!\,2!}$ $\qquad$ □ $\quad C(4,1)\frac{8!}{3!\,2!}$

Tamaño 7

CC $\quad \frac{7!}{3!}$ $\qquad$ FF $\quad \frac{7!}{2!}$ $\qquad$ FC $\quad \frac{7!}{2!}$

C□ $\quad \frac{7!}{3!}C(4,1)$ $\qquad$ F□ $\quad \frac{7!}{2!\,2!}C(4,1)$

□□ $\quad \frac{7!}{2!\,3!}C(4,2)$

Tamaño 6

CCF $\quad \frac{6!}{2!}$ $\qquad$ FFC $\quad 6!$

CC□ $\quad \frac{6!}{3!}C(4,1)$ $\qquad$ C□□ $\quad \frac{6!}{3!}C(4,2)$

FF□ $\quad \frac{6!}{2!}C(4,1)$ $\qquad$ F□□ $\quad \frac{6!}{2!\,2!}C(4,2)$

CF□ $\quad \frac{6!}{2!}C(4,1)$ $\qquad$ □□□ $\quad \frac{6!}{2!\,3!}C(4,3)$

NO ES TAN

FÁCIL