

1 → 1
2 → 2
3 → 12
4 → 20
5 → 30

مشتق (n-1) درج

$$a_n = n^r + \frac{n(n-1)}{2} \rightarrow \frac{n^r + 2n^r - n}{2} = \frac{3n^r - n}{2}$$

$$t_{10} = \frac{3 \cdot 10^3 - 10}{2} = \frac{2990}{2} = 1495$$

1 → 0
2 → 1
3 → 3
4 → 6

$$a_{100} = \frac{100(100-1)}{2} = 4950$$

$$1 = 2a \rightarrow a = \frac{1}{2}$$

$$a_n = an^r + bn + c \rightarrow \frac{n^r}{2} + bn + c \rightarrow \frac{n^r}{2} - \frac{n}{2} + c \rightarrow \frac{n(n-1)}{2}$$

$$\begin{cases} 1 = \frac{a}{2} + 3b + c \\ 1 = 2 + 2b + c \end{cases} \rightarrow \begin{cases} 1 = \frac{a}{2} + 3b + c \\ 0 = \frac{1}{2} + b + c \end{cases} \rightarrow \begin{cases} 1 = \frac{a}{2} + 3b + c \\ 0 = \frac{1}{2} + b + c \end{cases} \Rightarrow c = \frac{a}{2} - \frac{1}{2} + c \rightarrow c = 0$$

1 → 0 → 0
2 → 4 → 12
3 → 18 → 24
4 → 32 → 40

$$\begin{aligned} a_{11} &= 4 \cdot 4 + 1 = 17 \\ b_{11} &= 1 \cdot 1 - 4 = -3 \end{aligned}$$

$$a_n = 0 + 4n - 4 \rightarrow 4n - 4$$

$$b_n = 0 + 1n - 1 \rightarrow 1n - 1$$

$$a_n = \frac{(-1)^n}{n} \rightarrow \frac{-1}{1}, \frac{1}{2}, \frac{-1}{3}, \frac{1}{4}$$

$$\frac{1}{2} - (-1) = \frac{3}{2}$$

$$b_n = (-2)^n - 2n \rightarrow b_4 = (-2)^4 - 2 \cdot 4 = 16 - 8 = 8$$

$$a_n = -2n + 22 \rightarrow a_8 = -2 \cdot 8 + 22 = 6$$

$$L \rightarrow 22 - 2K = 6 \rightarrow -2K = 6 - 22 \rightarrow -2K = -16 \rightarrow 2K = 16 \rightarrow K = 8$$

$$a_{10} - a_v = 1r$$

$$a_v + rd - a_v = 1r \rightarrow d = r$$

$$a_u - a_1 \rightarrow a_1 + \omega d - a_1 \rightarrow \omega d$$

$$\hookrightarrow \omega d = \underline{r_0}$$

$$a_r = v \quad (1r = 1\omega)$$

$$\begin{cases} 1\omega = a_1 + rd \\ v = a_1 + d \end{cases} \rightarrow rd = 1 \rightarrow d = r \quad a_n = v + fn - f \rightarrow fn - 1$$

$$b_n = v + (n-1)d$$

$$\begin{cases} b_1 = v \\ b_r = b_1 + rd - v + rd = 1\omega \end{cases} \rightarrow rd = 1 \quad d = r$$

$$b_n = v + fn - f \rightarrow \underline{fn + v}$$

$$t_n = \frac{v}{a}, \frac{a}{v}, \frac{1}{q}, \frac{1}{11}, \dots \rightarrow$$

$$\hookrightarrow t_n = \frac{r + (n-1)f}{\omega + (n-1)r} \rightarrow \frac{fn - r}{rn + v}$$

$$\frac{fn - r}{rn + v} = \frac{r}{r} \rightarrow an + q = 1n - f \rightarrow 1r = rn \rightarrow 1 = q, \omega$$

$$n \leq 4$$

$$\underline{4}$$

$$t_n = 4, 9, 9, 4, 0, \dots \rightarrow rd = -r \rightarrow a = \underline{\frac{-r}{r}}$$

$$a_1^r + bn + c \rightarrow \underline{\frac{-r}{r}n^q} + bn + c$$

$$r\left(\frac{-r}{r}\right) + \omega\left(\frac{1\omega}{r}\right) \Rightarrow \frac{-r}{r} + \frac{v\omega}{r} = \frac{a\omega}{r} \Rightarrow \underline{vr}$$

$$\begin{cases} 1 = -a + rb + c \\ 4 = \frac{-r}{r} + b + c \end{cases} \rightarrow v = -r, \omega + b \rightarrow b = \underline{v, \omega}$$

$$\hookrightarrow c + 4 = \frac{-r}{r} + \frac{1\omega}{r} + c$$

$$\hookrightarrow c = 0$$

$$t_n = -4, -4, 0, \dots$$

$$ra = r \rightarrow a = 1$$

$$a_n = n^r + bn + c \rightarrow n^r - n - 4$$

$$\begin{cases} -4 = 1 + b + c \\ -4 = r + rb + c \end{cases} \rightarrow r = r + b \rightarrow b = -1$$

$$c = -4$$

$$b_r = r1$$

$$b_f = f1$$

$$\begin{cases} f1 = b_1 + rd \\ r1 = b_1 + d \end{cases} \rightarrow 1\omega = rd \rightarrow d = \omega$$

$$\hookrightarrow r1 = b_1 + \omega - b_1 = r\omega$$

$$b_n = r\omega + (n-1)\omega$$

$$\hookrightarrow \omega n + r1$$

$$ra, r1, r\omega, f1, \dots$$

$$n^r - n - 4 = \omega n + r1$$

$$n^r - a_n = rv$$

$$n(n-4) \rightarrow n = f$$