

$$t_n = t_1 + (n-1)d$$

$$t_1 = t_v = 1d = 1 \Rightarrow d = 1$$

$$t_4 - t_1 = (4-1)d = 3d = 3 \Rightarrow d = 1$$

$$\alpha_f - \alpha_v = 1d_{\alpha} \Rightarrow 1d - 1 = 1 \Rightarrow d_{\alpha} = 1$$

$$\alpha_1 = \alpha_v - d_{\alpha} = 1 - 1 = 0 \Rightarrow \alpha_1 = 0$$

$$\alpha_v = \alpha_1 + 1d_{\alpha} = 0 + 1 = 1 \Rightarrow \alpha_v = 1$$

$$b_1 = \alpha_1 = 0 \quad d_b = b_v - b_1 \Rightarrow 1 - 0 = 1$$

$$b_v = \alpha_v = 1 \quad b_n = b_1 + (n-1)d_b \Rightarrow 1 + (n-1)1 = n$$

$$b_v = (-1)^v = (1 \times 1) = -1 \times 1 = -1$$

$$\alpha_v = -2v + 1$$

$$-1 = -2 \times 1 + 1$$

$$-1 = -2 \times 1$$

$$1 = 1$$

$$t_n = An^2 + Bn$$

$$t_1 = 4$$

$$t_v = 9$$

$$\begin{cases} n=1 \Rightarrow A+B=4 \\ n=v \Rightarrow 4A+1B=9 \end{cases} \Rightarrow \begin{cases} -3A-1B=-12 \\ 4A+1B=9 \end{cases}$$

$$A = -\frac{13}{7}$$

$$-\frac{13}{7} + B = 4 \Rightarrow B = \frac{41}{7}$$

$$3 \times (-\frac{13}{7}) + 4(\frac{41}{7}) = -\frac{39}{7} + \frac{164}{7} = \frac{125}{7} = 17\frac{6}{7}$$

$$t_n = An^2 + Bn + C$$

$$t_1 = -4$$

$$t_v = -1$$

$$t_v = 0$$

$$n=1 \quad A+B+C=-4$$

$$n=v \quad 4A+1B+C=-1$$

$$n=v \quad 9A+3B+C=0$$

$$(4A+1B+C) - (A+B+C) = 3A = 3 \Rightarrow A=1$$

$$(9A+3B+C) - (4A+1B+C) = 5A+2B = 1 \Rightarrow 5(1)+2B=1 \Rightarrow 2B=-4 \Rightarrow B=-2$$

$$2A=2$$

$$\begin{cases} A=1 \\ B=-2 \end{cases}$$

حل مشترك

$$\begin{cases} t_v = 34 \\ \alpha_v = 34 \end{cases}$$

$$1-1+C=-4$$

$$C=-4$$

$$t_n = n^2 - 2n - 4$$

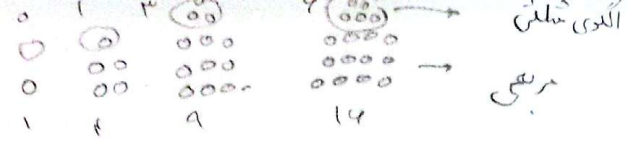
$$\alpha_n = \alpha_1 + (n-1)d$$

$$\begin{cases} \alpha_v = \alpha_1 + d = 31 \Rightarrow d=1 \\ \alpha_f = \alpha_1 + 3d = 34 \Rightarrow d=1 \end{cases}$$

$$\alpha_1 = 31 - d = 30$$

۱. دایره و خطی خواص

۱۹/۵ آفرین



$$\frac{n(n-1)}{2} + n^2 = \Rightarrow \frac{1 \times 9}{2} = 4.5 + 1 \times 2 = 6.5$$

مثال:

$$\begin{cases} r=1 \\ r=2 \\ r=3 \end{cases} \rightarrow \frac{n(n-1)}{2}$$

$$\frac{n(n-1)}{2} = 55$$

$$n(n-1) = 110$$

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جمله n درج = جمله $n-1$ درج +

جمله n درج = جمله $n-1$ درج -

$$n=1 \quad a_1 = \frac{(-1)^1}{1} = -1$$

$$n=2 \quad a_2 = \frac{(-1)^2}{2} = \frac{1}{2}$$

$f_{n+1} = 5, 9, 13, \dots$

$f_{n-1} = 1, 5, 9, \dots$

$f_{n+1} = (f_n + 4) + 1 = f_n + 5$

$f_n = (f_{n-1} + 4) + 1 = f_{n-1} + 5$

دقت کن

صورت = $2 + (n-1)4 = 4n-2$

$\Rightarrow \frac{4n-2}{2n+3} = \frac{2n-1}{n+1.5}$

$2(4n-2) < 3(2n+3)$

$8n-4 < 6n+9$

$2n < 13$

$n < 6.5$

$n \in \{1, 2, 3, 4, 5, 6\}$

سوال داشت معنی

جمله n درج = جمله $n-1$ درج +

$$-4, -2, 0, \dots$$

$$\begin{array}{cc} \uparrow & \uparrow \\ +2 & +2 \end{array}$$

$$\begin{array}{c} \uparrow \\ +2 \end{array} \rightarrow 2a < 2 \rightarrow a < 1$$

$$t_n = an^2 + bn + c \rightarrow \begin{cases} t_1 = a + b + c = -4 \\ t_2 = 4 + 2b + c = -2 \end{cases} \rightarrow \begin{array}{l} b = -1 \\ c = -3 \end{array} \rightarrow b_n = n^2 - n - 4$$

$$b_n = An + B \rightarrow \begin{cases} b_2 = 2A + B = 3 \\ b_4 = 4A + B = 1 \end{cases} \rightarrow \begin{array}{l} A = 2 \\ B = -1 \end{array} \rightarrow b_n = 2n - 1$$

$$2n^2 - n - 9 < 2n - 1 \rightarrow n^2 - 4n - 4 < 0 \rightarrow n < 9 \checkmark$$

$$\hookrightarrow n = -5 \times$$