

$$t_n = 2n^2 - 1 \quad t_1 = 2 - 1 = 1 \quad t_2 = 2 \cdot 4 - 1 = 7 \quad t_3 = 2 \cdot 9 - 1 = 17$$

$$t_4 = 2 \cdot 16 - 1 = 31 \quad t_5 = 2 \cdot 25 - 1 = 49$$

$$t_n = \frac{2n+1}{n+2} \quad t_1 = \frac{2 \cdot 1 + 1}{1 + 2} = \frac{3}{3} = 1 \quad t_2 = \frac{2 \cdot 2 + 1}{2 + 2} = \frac{5}{4}$$

$$t_3 = \frac{2 \cdot 3 + 1}{3 + 2} = \frac{7}{5} \quad t_4 = \frac{2 \cdot 4 + 1}{4 + 2} = \frac{9}{6} = \frac{3}{2}$$

$$t_n = \frac{(-1)^n}{\sqrt{n+3}} \quad t_{13} = \frac{(-1)^{13}}{\sqrt{13+3}} = -\frac{1}{4}$$

$$t_n = 2n - \left\lfloor \frac{n}{2} \right\rfloor \quad t_{13} = 2 \cdot 13 - \left\lfloor \frac{13}{2} \right\rfloor = 26 - 6 = 20$$

$$t_n = 2n - 10 \quad 2n - 10 < 0 \quad 2n < 10 \quad n < 5 \quad \text{اگر } n \text{ عدد طبیعی است پس } \{1, 2, 3, 4\}$$

$$t_n = n^2 - 12n + 35 < 0 \quad (n-5)(n-7) < 0 \quad \{5, 6, 7\}$$

$$t_n = 2n - 16 \quad 2n - 16 \leq 0 \quad 2n \leq 16 \quad n \leq 8 \quad \{1, 2, 3, 4, 5, 6, 7, 8\}$$

$$t_n = n^2 - 12n + 27 \quad (n-3)(n-9) \leq 0 \quad \{3, 4, 5, 6, 7, 8, 9\}$$

$$t_4 = 7 \quad t_9 = 22 \quad t_{13} = ?$$

$$7 - 22 = -15 \Rightarrow t_{13}$$

$$\frac{22 - 7}{9 - 4} = \frac{15}{5} = 3 \quad d = 3$$

$$\frac{t_n - t_m}{n - m} = d$$

$$t_n = n^2 - 4n + 1 \quad \frac{-b}{2a} = \frac{4}{2} = 2 \quad 2^2 - 11 + 1 = -8$$

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$$t_n = n^2 + 4n + 1 \quad \frac{-b}{2a} = \frac{-4}{2} = -2 \xrightarrow{\text{sol} = -2, n} 1 + (-2) + 1 = 0$$

$$t_n = an^2 + bn + c \quad t_1 = a + b + c = -1 \quad \Delta a + b = -1 \quad \Delta a + b = -1$$

$$t_2 = 4a + 2b + c = -4 \quad -3a - b = 3$$

$$t_3 = 9a + 3b + c = -9 \quad 2a = 2$$

$$a = 1$$

$$b = -2$$

$$c = 1$$

$$t_n = n^2 - 4n + 1 \rightarrow t_{10} = 100 - 40 + 1 = 61$$

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$$t_n = an^2 + bn + c \quad t_1 = a + b + c = -1 \quad \Delta a + b = 9 \quad \Delta a + b = 9$$

$$t_2 = 4a + 2b + c = -1 \quad 3a + b = 8 \quad -3a - b = -9$$

$$t_3 = 9a + 3b + c = 1 \quad 2a = 1$$

$$a = 1$$

$$b = -1$$

$$c = -1$$

$$t_n = 1n^2 - 1n - 1$$

$$t_4 = 16 - 4 - 1 = 11$$



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$$a + 4 > 2a + 1$$

$$-a > -3$$

$$a < 3$$

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الف) $3n < 100 \quad n < \frac{100}{3} \approx 33 \quad 1 \leq n < 33 \rightarrow 1, 2, \dots, 32$

ب) $\Delta n < 100 \quad n < \frac{100}{\Delta} \quad 1 \leq n < 10 \rightarrow 1, 2, \dots, 9$

ج) $1 \leq n \leq 100 \quad n < \frac{100}{\Delta} \approx 6 \rightarrow 1, 2, \dots, 5$

د) $89 + 33 = 122 \rightarrow 122 + 6 = 128$

سفر

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