

$$\{1\}, \{2, 3, 4\}, \{5, 6, 7, 8, 9\}, \dots$$

$$n = \text{شماره است}$$

$$9^2 = 81 \Rightarrow \text{عدد اول دسته کف} = n^2 \Rightarrow \text{عدد اول دسته بعدی} = n^2 + 1$$

$$81 + 1 = 82 \Rightarrow \text{عدد اول دسته کف} = 81 \Rightarrow \text{عدد اول دسته بعدی} = 82$$

$$\text{راستای همای بین عدد اول و عدد اول} = \frac{81 + 82}{2} = 81.5$$

$$\{1, 2, 3\}, \{4, 5, 6, \dots, 12\}, \{13, 14, 15, \dots, 39\}, \dots$$

$$3^3 = 27 \Rightarrow \text{تعداد اعداد دسته} = 3^3 = 27 \Rightarrow \text{تعداد اعداد دسته} = 3, 9, 27, \dots$$

$$3 + 9 + 27 + \dots + 243 = 3 \times \frac{3^5 - 1}{3 - 1} = 3 \times 121 = 363$$

$$\text{عدد اول دسته} = 121 \Rightarrow \text{تعداد اعداد دسته} = 121 \Rightarrow \text{تعداد اعداد دسته} = 121$$

$$S_0 = a_0 + a_1 + a_2 + \dots + a_n = 19$$

$$n = 2k \Rightarrow n = 0, 2, 4, 6, \dots \Rightarrow \begin{cases} a_0 = 2^0 = 1 \\ a_2 = 2^2 = 4 \\ a_4 = 2^4 = 16 \\ a_6 = 2^6 = 64 \end{cases}$$

$$n = 2k + 1 \Rightarrow n = 1, 3, 5, \dots \Rightarrow \begin{cases} a_1 = 2^1 = 2 \\ a_3 = 2^3 = 8 \\ a_5 = 2^5 = 32 \end{cases}$$

$$n = 2k + 2 \Rightarrow n = 2, 4, 6, \dots \Rightarrow \begin{cases} a_2 = 2^2 = 4 \\ a_4 = 2^4 = 16 \\ a_6 = 2^6 = 64 \end{cases}$$

$$\begin{cases} n = 2 \Rightarrow 2k + 2 = 2 \Rightarrow k = 0 \\ n = 4 \Rightarrow 2k + 2 = 4 \Rightarrow k = 1 \\ n = 6 \Rightarrow 2k + 2 = 6 \Rightarrow k = 2 \end{cases}$$

$$\begin{cases} a_k = \left[\frac{2^k}{2^k + 2} \right] + a = 1 + a \\ a_0 = \left[\frac{2^0}{2^0 + 2} \right] + a = 1 + a \\ a_1 = \left[\frac{2^1}{2^1 + 2} \right] + a = 2 + a \end{cases}$$

$$10a + \left\{ \left[\frac{2^0}{2^0 + 2} \right] + \left[\frac{2^1}{2^1 + 2} \right] + \left[\frac{2^2}{2^2 + 2} \right] + \left[\frac{2^3}{2^3 + 2} \right] + \dots + \left[\frac{2^9}{2^9 + 2} \right] \right\} = 10a + 18 = 10(-2) + 18 = -2$$

$$an^2 + bn + c = 14 \Rightarrow \begin{cases} 25a + 5b + c = 14 \\ 49a + 7b + c = 17 \end{cases} \Rightarrow 24a + 2b = 3 \Rightarrow 24a + 2b = 3$$

$$a = \frac{1}{24} \times (-14) = -\frac{1}{2} \Rightarrow 24 \left(-\frac{1}{2} \right) + 2b = 3 \Rightarrow 2b = 3 + 12 = 15 \Rightarrow b = \frac{15}{2}$$

$$\Rightarrow 25 \left(-\frac{1}{2} \right) + 5 \left(\frac{15}{2} \right) + c = 14 \Rightarrow c = -1 \Rightarrow \text{معادله} = -\frac{1}{2}n^2 + \frac{15}{2}n - 1$$

$$\frac{a_1 a_2}{a_1} = \frac{-\frac{1}{2} \times 15^2 + 15 - 1}{-\frac{1}{2} + 15 - 1} = \frac{-\frac{1}{2} \times 225 + 14}{14} = \frac{-112.5 + 14}{14} = \frac{-98.5}{14} = -7.035$$

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$$a = \frac{1}{1+d}$$

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تدریسی کتاب

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$$\frac{b}{1q}, \frac{a}{1}, \frac{c}{1q} \Rightarrow \frac{a^r}{r} = \frac{bc}{r} \Rightarrow a^r = bc \Rightarrow$$

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$$\Rightarrow \cancel{\frac{r q}{h}} = -r$$

$$\Rightarrow \frac{rb^r}{c} = \frac{rb+c}{1} = \frac{c^r + rbc}{c} \Rightarrow$$

$$b^2 - 3bc - c^2 = 0 \xrightarrow{\text{دو طرفه درستی}} b^2 - 3bc - 4c^2 =$$

حرف ۹، ط، ک
ممکنه اند →

دنباله هرنزی: $\frac{c}{14}, -\frac{c}{14}, c, \dots \Rightarrow q_n = -\frac{c}{14}$

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