

$$t_1 = a_1 = 0$$

$$t_2 = a_1 + 3d = 4$$

$$3d = 4 - 0 = 4$$

$$d = \frac{4}{3}$$

$$t_n = 0 + v(n-1)$$

$$t_n = 0 + v(n-1) = 108$$

$$108 - 0 = vn - v$$

$$vn = 108$$

$$n = 27$$

$$100 \leq v_n + 3 \leq 999$$

$$97 \leq v_n \leq 996$$

$$100, \dots \leq n \leq 1000, \dots$$

$$100 \leq n \leq 1000$$

$$\text{تعداد} = \frac{1000 - 100}{1} + 1 = 901$$

$$n=1 \rightarrow a_1 + a_2 + a_3 = 6$$

$$a_1 + d + a_1 + 2d + a_1 + 3d = 6$$

$$3(a_1 + 2d) = 6$$

$$n=2 \rightarrow a_1 + a_2 + a_3 = 0$$

$$a_1 + 2d + a_1 + 3d + a_1 + 4d = 0$$

$$3(a_1 + 3d) = 0$$

$$\begin{cases} a_1 + 3d = 0 \rightarrow d = -\frac{a_1}{3} \\ a_1 + 2d = 2 \rightarrow a_1 = 6 \end{cases}$$

$$a_1 + a_2 + a_3 = a_1 + 2d + a_1 + 3d + a_1 + 4d = 3a_1 + 9d = 18 - 18 = 0$$

راه حل یاسین بیرم نوشته شده است!

$$t_{12} - t_1 = 11 \rightarrow a_{11}d - a_1 = 11 \rightarrow d = \frac{11}{10}$$

$$t_{12} + t_1 = a_{11}d + a_1 + 9d = 2(a_1 + 5d) = 10 \rightarrow 2a_1 + 11d = 10$$

$$t_{11} = 9/10 + 10(n-1)$$

$$t_{11} = -11/10 + 10(10) = 100 - 11/10 = 999/10$$

$$x \cdot \frac{1}{\mu} + x \cdot \frac{1}{\mu} + x \cdot \frac{1}{\mu} + x \cdot \frac{1}{\mu} = \frac{1}{\mu} (x + x + x + x + x + x + x + x)$$

$$\Delta x = \frac{1}{\mu} (\Delta x + \mu \Delta d)$$

$$\Delta x = \frac{\Delta x}{\mu} + \frac{\mu \Delta d}{\mu}$$

$$\frac{1}{\mu} \Delta x = \frac{\mu \Delta d}{\mu} \rightarrow x = \mu \Delta d$$

$$\frac{t_r}{t_i} = \frac{x - d}{x - \epsilon d} = \frac{\epsilon \Delta d - d}{\epsilon \Delta d - \epsilon d}$$

$$= \frac{1/\Delta d}{1/\Delta d} = \mu$$

$$t_w = t_{w-\mu} + 1\Delta \Rightarrow t_w = 1\Delta \rightarrow t_w + \alpha \epsilon \Delta = 1\Delta$$

$$t_s = t_w + 1\Delta = \mu \rightarrow t_h = \Delta h$$

$$\Delta = \frac{\mu_0 - 1\Delta}{\mu} = \Delta$$

$$\frac{t_q^r - \epsilon_0^r}{\epsilon_r} = \frac{\epsilon_0^r - \epsilon_0^r}{\epsilon_0} = \frac{\epsilon_0}{\epsilon_0}$$

$$d = \frac{x + \sqrt{\mu} - x + 1/\sqrt{\mu}}{1/\mu} = \frac{1/\sqrt{\mu}}{1/\mu} = \sqrt{\mu}$$

$$d = \frac{\mu \mu_r \mu}{\mu_n - \mu} = \frac{\mu_0}{\mu(\mu_{n-1})} = \frac{1\Delta}{\mu_{n-1}}$$

$$t_{n+1} = 1\Delta = d + n(d)$$

$$1\Delta = \mu + n \left( \frac{1\Delta}{\mu_{n-1}} \right) \rightarrow \frac{1\Delta n}{\mu_{n-1}} = q$$

$$1\Delta n = 1\Delta n - q$$

$$\mu_n = q$$

$$\rightarrow \mu = \mu$$

$$t_n + t_{n+r} = t_w + t_r$$

$$t_n = \mu t_r \rightarrow t_s = \mu t_r$$

$$t_n = \mu t_r$$

$$a_r \mu d = \mu a + q d$$

$$- \mu a = \mu d$$

$$\mu a = d \rightarrow t_n = a + (n-1)a$$

$$\mu a - a_n \rightarrow t_n = 0$$

$$a_n + a_{n+2} = a_n + a_{n+1} \rightarrow n + n + 2 = n + n + 1$$

$$2n + 2 = n + 1 \rightarrow n = -1$$

$$a_1 = 2a_2 \rightarrow a_1 + r d = 2(a_1 + r d)$$

$$2a_1 + 2r d = a_1 + r d \rightarrow 2a_1 + 2r d - a_1 - r d = 0 \rightarrow a_1 + r d = 0$$

$$a_t = 0 \rightarrow a_1 + (t-1)d = 0 \rightarrow t d = -a_1$$

$$t = 2$$

مقدار ۱۲ صفر است

$$a_3 + a_{13} = a_1 + a_{11}$$

$$r^3 - 1 + r^{13} - r^3 = r(r^{11} + 1)$$

$$r^3 - 1 = r(r^{11} + 1) - r^3$$

$$r^3 - 3 \times r^3 - 1 = 0 \rightarrow r^3 = 1$$

$$t^3 - 3t - 1 = 0 \rightarrow t = 2 \rightarrow r^3 = 1 \rightarrow n = 2$$

ع ۱-۱

$$\text{حاصل} \rightarrow \frac{r^3 - 1}{r^3 + 1} / \frac{r^{11} + 1}{r^{11} + 1} / \frac{r(r^{11} + 1)}{r^{11} + 1} = \boxed{24}$$