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$$a_1=1, a_2=4, a_3=9 \rightarrow a_n=n^2 \rightarrow a_9=81 \rightarrow a_{10}=10^2=100$$

$$a_n [4, 9, \dots, 81] \rightarrow \frac{81+4}{2} = 42.5$$

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$$\begin{matrix} (1) & (2) & (3) \\ [1, 2, 3] & [2, 4, 6, 2, 3] & [3, 4, 5, 6, 7, 1, 2, 3] \\ \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} \\ \frac{1}{2} & \frac{2}{3} & \frac{3}{4} \end{matrix} \Rightarrow \text{اعداد به قدر ۳ باشند}$$

$$\begin{matrix} (4) & (5) \\ [4, 5, 6, 7, 8, 9, 10, \dots, 12] & [10, 9, 8, \dots, 1, 2, 3] \end{matrix} \Rightarrow \text{میانگین} = \frac{10+1}{2} = \frac{11}{2} = 5.5$$

$$\begin{aligned} 2^k &\Rightarrow n=1, 2, 3, 4, k=1, 2, 3, 4 \quad -2k+4 \Rightarrow n=1, 2, 3, 4, k=1, 2, 3, 4 \\ \left[\frac{n}{k+1} \right] + a &\Rightarrow n=1, 2, 3, 4, k=1, 2, 3, 4 \quad \sum_{i=1}^n a_i + a_1 + a_2 + \dots + a_n = (a_1 + a_2 + a_3 + a_4) + (a_1 + a_2 + a_3) \\ &\quad + (a_1 + a_2 + a_3) + a_1 \end{aligned}$$

$$(1, 2, 3, 4) + (2, 3, 4) + \frac{1}{2} + a + \frac{1}{3} + a + \frac{1}{4} + a = 19 \Rightarrow a = -2$$

$$\Rightarrow \left[\frac{2k+1}{k+1} \right] - 2 = \left[\frac{2(k+1)-1}{k+1} \right] - 2 = \left[2 - \frac{1}{k+1} \right] - 2 = -\frac{1}{k+1}$$

$$a_1 + a_2 + \dots + a_{10} = \left(1 - \frac{1}{2}\right) + \left(1 - \frac{1}{3}\right) + \dots + \left(1 - \frac{1}{11}\right) = \frac{10}{11}$$

$$a_n = -\frac{1}{n} n^2 + b n + c$$

$$\frac{a_{12}}{a_1} = \frac{1}{1} \times 12 + b + c$$

$$\frac{a_{10}}{a_1} = \frac{1}{1} \times 10 + b + c$$

$$\Rightarrow \begin{cases} 12 = -1 + b + c \\ 10 = -1 + b + c \end{cases} \Rightarrow \begin{cases} 13 = -1 + b + c \\ 11 = -1 + b + c \end{cases} \Rightarrow \begin{cases} b = 4 \\ c = 1 \end{cases}$$

$$\begin{aligned} a_n &= -\frac{1}{n} n^2 + b n + c \\ \Rightarrow a_{10} &= -\frac{1}{10} (10^2) + 4 \times 10 + 1 = -10 + 40 + 1 = 31 \\ a_1 &= -\frac{1}{1} + 4 - 1 = 2 \end{aligned}$$

$$\Rightarrow \frac{a_{10}}{a_1} = \frac{31}{2} = 15.5$$

a = ضرایب b = ضرایب

$$a_p = b_r, a_n = b_v \Rightarrow$$

$$a + r d = p b + q, a + v d = v b + q \Rightarrow$$

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$$\begin{cases} a + r d = p b + q \\ a + v d = v b + q \end{cases} \Rightarrow$$

$$r b = p d \Rightarrow b = \frac{p d}{r}$$

$$b_{10} = 10 b + q \Rightarrow 10 b - 10 b = -10 b \Rightarrow$$

$$\Rightarrow b_{10} = 10 b + q = 0 \Rightarrow q = -10 b$$

$$\Rightarrow \frac{p d}{r} = -10 b$$

$$a_f = a + d, a_w = a + rd, a_e = a + r^2d$$

$$(a+d)^r = a(a+rd)a + r(a+d)a = 4(a^r + rad + d^r) = a/a^r + rad, r(a^r + ad)$$

$$4a^r + rad + 4d^r = 4a^r + 4rd \Rightarrow rad + 4d^r = 4rd \Rightarrow rad - 4d^r = 0 \Rightarrow r\left(\frac{a^r}{d^r}\right) + \frac{a}{d} - 4 = 0 \Rightarrow \frac{a}{d} = x$$

$$\Rightarrow a^r + x - 4r = 0 \Rightarrow x < \frac{4}{r} \quad , \quad \frac{a_f}{d} = \frac{a+rd}{d} = \frac{a}{d} + r = x + r \quad \begin{matrix} x = -r \\ x = \frac{4}{r} \end{matrix}$$

$$\frac{C}{F}, \frac{A}{V}, B \Rightarrow \frac{\frac{A}{V}}{\frac{C}{F}} = \frac{B}{\frac{A}{V}} \Rightarrow \frac{FA}{C} = \frac{VB}{A} \Rightarrow A^r = B C^*$$

$$B = aq, C = aq^r \Rightarrow A^r = (aq)(aq^r) = aq^r \Rightarrow 1 = q^r$$

$$r q = r$$

$$b^r = a^r \Rightarrow (ra - r) = (rc - ra) \Rightarrow ra - rc = 0 \Rightarrow a = c^*$$

$$\Rightarrow b^r = a^r \Rightarrow b = a \Rightarrow A^r = \frac{aq}{aq^r} = \frac{q}{q^r} = q^r = 1 \Rightarrow q = 1$$

$$\frac{a_f}{a_v^r} = \frac{aq^w}{(aq)^r} = \frac{aq^w}{a^r q^r} = \frac{q^r}{a^r} \quad , \quad \frac{a_f}{(a)^r} = \frac{aq}{a^r} = \frac{q}{a} \Rightarrow \frac{q}{a} = x$$

$$x + x = r \Rightarrow x^r + x - r = 0 \quad \begin{matrix} x = 1 \\ x = -r \end{matrix} \Rightarrow \frac{a^r}{a^r} = \frac{a^r}{aq^r} = \frac{a}{q} = \frac{1}{q} = \frac{1}{q}$$

$$a_w = \sqrt{a_f}, a_w = rV \Rightarrow aq^r = rV \Rightarrow \frac{1}{q} q^r = rV \Rightarrow q = r, a = \frac{1}{r}$$

$$(aq^r = \sqrt{aq^r})^r = a^r q^r = aq^r \Rightarrow aq = 1 \Rightarrow a = \frac{1}{q}^*$$

$$a = \frac{1}{r} = \frac{1}{r} - \frac{1}{r} = \frac{1}{r} \quad \checkmark$$

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$$\rightarrow b \leq (2b-c)^r$$

معبات متنايز! $a=b \rightarrow a=c$

$$\text{Ni}_2 \rightarrow b, \frac{a}{r}, \frac{c}{z} \rightarrow b, -b, b \rightarrow q = -1$$
$$r q = -r$$

$$\hat{\Delta}$$

والمعادن $\rightarrow (a_1, a_2, a_3) \quad (1, 0, 0) \quad (0, 1, 0)$

والمعادن $3a_1 + a_2 = \varepsilon a \xrightarrow{\div a} 3q_1 + q_2 = \varepsilon \rightarrow q = 1 \quad \times$

$$q = -\varepsilon \rightarrow \frac{dq}{d\varepsilon} = \frac{dq}{dq\Delta} = q^\mu = (-\varepsilon)^\mu = -4\varepsilon$$

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دنباله صیغی $a_n = a_1 + (n-1)d$ و دنباله ضعیف $b_n \leq c_n + 1$ است

$$b|z_0 \rightarrow l.c + k.c_0 \rightarrow \boxed{kz - l.c}$$

$$\frac{b/a}{d} = \frac{1/c + k}{d} = \frac{1/c - 1/c}{d} = \frac{0}{d} = \frac{k}{d} = \boxed{k}$$