

① فطانت به نانو نود
که تابع الیاء صود

$$f(n) = (n^c + n)^c \quad f \circ f(n) < f(n^c) \quad f(n) < n^c \quad (n^c + n)^c < n^c \quad (\text{✓})$$

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الدالة

$$(-\infty, 0] \rightarrow \infty$$

$$a = 0$$

بردا جانقرا

$$f(n) = (a^5 - a)^n$$

$$a^5 > 1 \rightarrow a^5 > \epsilon \rightarrow a = R - [-5, 5]$$

$$a = R - (-5, 5) \quad \text{بعضی صوری اگر ثابت با}$$

$$t=1$$

$$f(n) = n + \sqrt{n} - 2 \quad \text{شامل چند صوری}$$

$$f(n) \leq \sqrt{n} \rightarrow n + \sqrt{n} - 2 \leq \sqrt{n} \rightarrow n \leq 2$$

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$$2 \text{ و } 1 \text{ و } 0 \text{ صوری}$$

$$f(n) = \sqrt[n]{9 \cos^n - 1} - \sqrt[n]{1 - 9 \cos^n} \quad R_f = [a, b] \quad b - a = ?$$

$$\text{بعضی صوری}$$

$$\text{اگر } t = \sqrt[n]{9 \cos^n - 1}$$

$$\min f(n) \Rightarrow \min t \rightarrow t^{-1} - t = -\frac{2}{t}$$

$$[a, b] = \left[\frac{10}{3}, \frac{10}{3} \right]$$

$$\max f(n) \Rightarrow \max t \rightarrow t^{-1} - t = \frac{10}{3} - \frac{1}{2} = \frac{10}{3}$$

$$\frac{10}{3} + \frac{1}{2} = \frac{21}{6}$$

$$\frac{21}{6}$$

$$f(n) = n - [n+1] \quad \text{و} \quad g(n) = \frac{r^n - r^{-n}}{r}$$

$$f(n) = n - [n+1] - 2 \rightarrow$$

$$R_f = [-1, 1]$$

$$g \circ f$$

$$n$$

$$D_g = [-1, 1]$$

$$\Rightarrow \frac{r^{-1} - r^1}{r} \text{ و } \frac{r^1 - r^{-1}}{r}$$

$$\left(-\frac{10}{3}, \frac{21}{6} \right)$$