

$$y = \sqrt{f(n) - n + 1}$$

$$f(n) = \begin{cases} r_{n-1} & [n] \geq \frac{r}{2} \\ \varepsilon_{n+r} & [n] < \frac{r}{2} \end{cases}$$

-1

$$\begin{cases} n < \frac{r}{2} \rightarrow \varepsilon_{n+r} - n + 1 = r_{n-1} + \varepsilon \rightarrow n \geq \frac{r}{2} \rightarrow \frac{r}{2} \leq n < \frac{r}{2} \\ n \geq \frac{r}{2} \rightarrow r_{n-1} - n + 1 = n \geq \frac{r}{2} \rightarrow n \geq \frac{r}{2} \end{cases} \Rightarrow D_f = \left[ -\frac{r}{2}, +\infty \right)$$

$$y = \frac{r\varepsilon_{n+r} + r^2r_{n-1} + 4n + r}{(\varepsilon_{n+r} + \varepsilon_{n+1})^r} = \frac{r(4n^2 + 4n + 1)}{(r_{n+1})^2} = \frac{r(r_{n+1})^r}{(r_{n+1})^2} = \frac{r}{r_{n+1} \neq 0} \quad \alpha + \frac{1}{r}$$

-2

$$f(n) = \begin{cases} \frac{r^2(n+r) - (n+r)}{n^2 - 1} & n \neq \pm 1 \\ \frac{r^2 + r}{n + b} & n = \pm 1 \end{cases} \rightarrow \frac{(n+r)(r^2 - 1)}{n^2 - 1} = n + r$$

$$b + r = ? \quad r + \frac{1}{r} = r_d$$

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$$\begin{aligned} \frac{a+r}{b+1} &= r & \frac{-a+r}{b-1} &= 1 \\ r_b + r &= a + r & -a + r &= b - 1 \\ r_b &= a - 1 & r &= b + a \end{aligned} \Rightarrow \begin{cases} C = r \\ g(n) = n + r \end{cases} \begin{matrix} n=1 \rightarrow r \\ n=-1 \rightarrow 1 \end{matrix}$$

$$\begin{aligned} r_b - a &= -1 \\ a + b &= r \\ r_b &= r \rightarrow \boxed{b = \frac{1}{r}} \quad \boxed{a = \frac{a}{r}} \end{aligned}$$

$$f(n) = \frac{n+1}{n-c} = \frac{n^2-1}{n^2+a+b} = \frac{(n+1)(n-1)}{(n-1)(n-c)} \quad n^2+a+b = (n-1)^2 = n^2 - 2n + 1$$

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$$R = \{1\} \quad D = \{1, c\} \quad a = -2 \quad b = 1 \quad c = +1$$

$$a + b + c = -2 + 1 + 1 = 0$$

$$f(n) = (n-r)^r(n-1) \quad g(n) = f(n+1) + f(1-n)$$

$$\begin{aligned} (n-r)^r(n) + (-n-r)^r(-n) &= n^r - \varepsilon n^r + \varepsilon n^r - n^r - \varepsilon n^r - \varepsilon n^r = -n^r \\ (n^r - \varepsilon n^r + \varepsilon)n + (n^r + \varepsilon n^r + \varepsilon)(-n) &= -n^r \end{aligned}$$

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$$f(1-n) = \begin{cases} \sqrt{n+r} & n \geq 0 \\ \varepsilon \sqrt{n} & n < 0 \end{cases}$$

$$f(-1) + f(r) = ? = \varepsilon + 1 = a$$

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$$\begin{aligned} 1 - r_n &= -1 & 1 - r_n &= r \\ -r_n &= -r & -r_n &= r \\ n &= 1 & n &= -1 \end{aligned}$$

$$\begin{aligned} \varepsilon \sqrt{1} & \quad \sqrt{1+r} \\ \varepsilon & \quad 1 \end{aligned}$$

$$P(n+\sqrt{n}) = a^{\frac{1}{2}} + \sqrt{n} \quad P(a)$$

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$$n+\sqrt{n} = 9 \rightarrow n+\sqrt{n}-4 = \dots \rightarrow a^{\frac{1}{2}} + \sqrt{n} \xrightarrow{n=2} \frac{1}{2} + \sqrt{2} = \sqrt{2} + \frac{1}{2} = \sqrt{4.5}$$

$$\frac{(\sqrt{n} + \frac{1}{2})(\sqrt{n} - \frac{1}{2})}{\frac{1}{2}}$$

$$n=2$$

-1

$$P(n) = a^{\frac{1}{2}} + n$$

$$P(n-1) + P(1-n) = ?$$

$$(n-1)^{\frac{1}{2}} + (n-1) + (1-n)^{\frac{1}{2}} + (1-n) = (n-1)^{\frac{1}{2}} - (n-1)^{\frac{1}{2}} = 0$$

$$P(n) = \sqrt{\frac{1}{2}n - \frac{1}{2}a + k - 1}$$

$$g(n) = \sqrt{b - \frac{1}{2}n} + \sqrt{k}$$

$$P \cdot g = \{ (1, k) \} \quad \frac{1}{2}a - \frac{1}{2}b - k = ?$$

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$$\frac{1}{2}n - \frac{1}{2}a$$

$$n > \frac{1}{2}a$$

$$b > \frac{1}{2}n$$

$$\frac{b}{2} > n$$

$$\frac{1}{2} \times \frac{1}{2} - \frac{1}{2} + 1$$

$$\Rightarrow \frac{1}{2}a - \frac{1}{2}b = 1 \rightarrow \frac{1}{2}a = \frac{1}{2}b + 1$$

$$\frac{a}{2} = \frac{b}{2} + 1$$

$$P(\sqrt{\frac{1}{2}n - \frac{1}{2}a + k - 1}) - (\sqrt{\frac{1}{2}n - \frac{1}{2}a} + \sqrt{k}) = k$$

$$\sqrt{k} - \sqrt{k} = k \rightarrow -\sqrt{k} = k \rightarrow k = -1$$

$$P(n) = \sqrt{m - n} + n$$

$$g(n) = \sqrt{n + 1}$$

$$D_{fg} = [-1, 1]$$

$$P \cdot g(n) = \sqrt{n}$$

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$$m > n$$

$$\rightarrow m = 1$$

$$\sqrt{n} > -1$$

$$n > -1$$

$$m + n = ?$$

$$1 + \sqrt{n} - 1 = \sqrt{n}$$

$$\sqrt{\frac{1}{2}n - \frac{1}{2}a} + n - \sqrt{\frac{1}{2}n - \frac{1}{2}a} = n = \sqrt{n} \Rightarrow n = \sqrt{n} - 1$$