$$P(1983) = \sum_{k=0}^{990} \left(\prod_{\substack{j=0 \\ j\neq k}}^{990} \frac{991-j}{k-j} \right) F_{k+992}$$

$$\varphi + \bar{\varphi} = 1 \quad , \varphi\bar{\varphi} = -1$$

$$1-\varphi = 1 - \left(\frac{1+\sqrt{5}}{2}\right) = \frac{1}{2} - \frac{\sqrt{5}}{2} = \bar{\varphi}$$

$$= \sum_{k=0}^{990} \frac{991!}{(991-k) \cdot k! \, (990-k)! \, (-1)^k} \frac{1}{\sqrt{5}} \left(\varphi^{k+992} - \bar{\varphi}^{k+992} \right)$$

$$= \frac{1}{\sqrt{5}} \sum_{k=0}^{990} \binom{991}{k} (-1)^k \varphi^{k+992} - \cdots$$

$$= \frac{\varphi^{992}}{\sqrt{5}} \sum_{k=0}^{990} \binom{991}{k} (-\varphi)^k - \cdots$$

$$= \frac{\varphi^{992}}{\sqrt{5}} \left[(1-\varphi)^{991} - (-\varphi)^{991} \right] - \cdots$$

$$= \frac{\varphi^{992}}{\sqrt{5}} \left[\bar{\varphi}^{991} + \varphi^{991} \right] - \cdots$$

$$= \frac{1}{\sqrt{5}} \left[(\varphi\bar{\varphi})^{991} \varphi + \varphi^{1983} \right] - \cdots$$

$$= \frac{1}{\sqrt{5}} \left[-\varphi + \varphi^{1983} + \bar{\varphi} - \bar{\varphi}^{1983} \right]$$

$$= \frac{1}{\sqrt{5}} \left[-\sqrt{5} + \varphi^{1983} - \bar{\varphi}^{1983} \right] = F_{1983} - 1$$