

$$f(0) = a$$

$$F(n) = f(n-1)^2$$

$$F(n-1) = f(n-2)^2$$

$$F(n-2)^2 = n^2 - 4n + 4$$

$$F(n) = f(n-1) + 2n - 3$$

$$N^2 - 4n + 4 + 2n - 3 = \mathbf{n^2 - 2n + 1}$$