$$\frac{y^{n+1} - 2y^n + y^{n-1}}{\tau^2} + \omega^2 y^n = f(n\tau) \Rightarrow$$

$$y^{n+1} = (2 - \tau^2\omega^2)y^n - y^{n-1} + \tau^2 f(n\tau)$$

$$\frac{y^1 - y^{-1}}{2\tau} = V \Rightarrow y^{-1} = y^1 - 2\tau V$$

$$y^1 = (2 - \tau^2\omega^2)\frac{U}{2} + \tau V + \frac{\tau^2}{2} f(0)$$