Part 4.2

Continue process through all $\boxed{N}$ equations.

$$\begin{bmatrix} F_1 & F_0 \\ F_2 & F_1 \\ \vdots & \vdots \\ F_{N-2} & F_{N-3} \end{bmatrix} \begin{bmatrix} d_1 \\ d_2 \end{bmatrix} = \begin{bmatrix} F_2 \\ F_3 \\ \vdots \\ F_{N-1} \end{bmatrix}$$

Matlab code attached for finding $\boxed{d_1}$ and $\boxed{d_2}$ using
N=20 dataset from $\boxed{Part\ 1}$

$d_1 = 0.9509$ $\Big\}$ From attached Matlab code
$d_2 = -0.1092$

$$\boxed{u_1} = d_1 - \frac{d_1 \pm \sqrt{d_1^2 + 4d_2}}{2} = \boxed{0.1337}$$

$$\boxed{u_2} = d_1 - u_1 = \boxed{0.8172}$$

$u_1 = e^{b_1 t}$

at $t=1 \rightarrow u_1 = e^{b_1}$

$\quad Ln(u_1) = b_1$

$\quad\quad b_1 = Ln(u_1)$

$\quad\quad b_1 = Ln(0.1337) =$

$$\boxed{b_1 = -2.0122}$$

$u_2 = e^{b_2 t}$

at $t=1$

$u_2 = e^{b_2}$

$Ln(u_2) = b_2$

$\quad b_2 = Ln(u_2)$

$\quad b_2 = Ln(0.8172) =$

$$\boxed{b_2 = -0.2019}$$