

Nihita John

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Dynamic Modeling Homework 1

$$1) F(n, p_1, p_2, p_3, c_0, c_1, c_2) = p_1 * F(n-1, p_1, p_2, p_3, c_0, c_1, c_2) + \\ p_2 * F(n-2, p_1, p_2, p_3, c_0, c_1, c_2) + \\ p_3 * F(n-3, p_1, p_2, p_3, c_0, c_1, c_2)$$

@ n=4

$$n-1 \Rightarrow 4-1=3 \rightarrow \text{must find}$$

$$n-2 \Rightarrow 4-2=2 \rightarrow @ n=2, F(n, p_1, p_2, p_3, c_0, c_1, c_2) = c_2$$

$$n-3 \Rightarrow 4-3=1 \rightarrow @ n=1, F(n, p_1, p_2, p_3, c_0, c_1, c_2) = c_1$$

@ n=3

$$n-1 = 3-1=2 \rightarrow @ n=2, F(n, p_1, p_2, p_3, c_0, c_1, c_2) = c_2$$

$$n-2 = 3-2=1 \rightarrow @ n=1, F(n, p_1, p_2, p_3, c_0, c_1, c_2) = c_1$$

$$n-3 = 3-3=0 \rightarrow @ n=0, F(n, p_1, p_2, p_3, c_0, c_1, c_2) = c_0$$

$$\rightarrow F(3, p_1, p_2, p_3, c_0, c_1, c_2) = c_2 + c_1 + c_0$$

$$F(4, p_1, p_2, p_3, c_0, c_1, c_2) = p_1 * (c_2 + c_1 + c_0) + p_2 * (c_2) + p_3 * (c_1)$$

