$$x'(t) = Ax(t) + Bu(t)$$
 discretization
$$x_k = \overline{A}x_{k-1} + \overline{B}u_k$$

$$y_k = Cx_k$$
 HiPPO initialization
$$x_k = A_1A_0x_{k-1} + 2A_1Bu_k$$

$$y_k = Cx_k$$