

$$\mathbf{x}(1) = \mathbf{f}(\mathbf{W}\mathbf{x}(0) + \mathbf{W}^{in}\mathbf{u}(1))$$

$$\mathbf{x}(2) = \mathbf{f}(\mathbf{W}\mathbf{x}(1) + \mathbf{W}^{in}\mathbf{u}(2))$$

$$\mathbf{x}(3) = \mathbf{f}(\mathbf{W}\mathbf{x}(2) + \mathbf{W}^{in}\mathbf{u}(3))$$

