Set of hidden states Set of transition probabilities Set of emission probabilities
$$\mathbf{S} = \{S_1, S_2\} \qquad \mathbf{a} = \{a_{11}, a_{12}, a_{21}, a_{22}\} \qquad \mathbf{e} = \{e_1, e_2\}$$

$$a_{11} \qquad a_{12} \qquad a_{21} \qquad a_{21} \qquad e_2(x_1)$$