

SHOBHAM GUPTA.
180749

HW-4

classmate

Date _____

Page _____

- 0 if it rained today, n yesterday
- 1 if it rained today but not yesterday
2. if it rained yesterday but not today
3. if it did not rained either yesterday or today

$$P(X_{n+2}=1 | X_{n+1}=1, X_n=1) = 0.3$$

$$P(X_{n+2}=1 | X_{n+1}=1, X_n=0) = 0.2$$

$$P(X_{n+2}=1 | X_{n+1}=0, X_n=1) = 0.1$$

$$P(X_{n+2}=1 | X_{n+1}=0, X_n=0) = 0.05$$

transition probability matrix for the 4-state Markov chain.

$$P = \begin{bmatrix} 0.3 & 0 & 0.7 & 0 \\ 0.2 & 0 & 0.8 & 0 \\ 0 & 0.1 & 0 & 0.9 \\ 0 & 0.05 & 0 & 0.95 \end{bmatrix}$$

Ans