

ITEC451

Activity 11

Name:

Markov Chain: A company has two machines. During any day, each machine that is working at the beginning of the day has a $1/3$ chance of breaking down. If a machine breaks down during the day, it is sent to a repair facility and will be working two days after it breaks down. (Thus, if a machine breaks down during day 3, it will be working at the beginning of day 5.) Letting the state of the system be the number of machines working at the beginning of the day, formulate a transition probability matrix for this situation. (Note: This is the problem 3 in page 927 of the textbook.)