Question 3

by Group Intersteller

1. In Exercise 3.3 of Homework 3, we are required to solve E[T], where T := min(T 10 (x),T 11 (y)). We use transformation equation of state to solve the problem. However, if we change this question to T := max(T 10 (x),T 11 (y)), it is rather difficult to set up transformation equation because we do not know whether 10 has existed in X or 11 has existed in Y, or neither has happened. So we want to know how to solve the problem if T := max(T 10 (x),T 11 (y)).
2. Consider that in one infinite sequence the same as Exercise 3.2, we let T:=T11-T10. It means the number of bits from the first appearance of 10 to the first appearance of 11. How can we calculate E[T]?