Resonating Property: amplified & signals in the fast second, then it would try to amplify the same number (x) in this turn as mell. may actually termsmit more er less than
that number. Assuming "tries". (1) Model with Markor Chain with countably infinite states. Reaching 'O' is ABSORBING STATE.

Norkor chain 's absorbing if:

(1) at least one absorbing state

(2) purisole to get to A.S. in finite # of staps. - Dur problem is an absorbing meaker chain. let traveit metric = KP1 mill t traverient States , & absorbing states. Elaronical forms?

Liter- arrived times. J Paison Places. > T, = W1, T2 = No + W1 ... Tn = Tnot Wn Nt: max 3 m | W, + .. + Nn = < t ].
Tn = out 9 t | Nt < n-13. Nn=Tn-Tn-1
for Markow Chains, for Pouson process, me know  $P[N_t:n] = e^{-\mu t} (\mu t)^n$ Ganition probability, Pij! = = e !! (pt) kij!" kij!"

n=0 — n! Liz Kannikai. Where Kij (n) = P[Xs+to = j | Xs=i, N+1s-Nj=n]

= P[Xs=j | Xs=i, N-No=n]

em has countally infinite Mighor States;

fundamentel metrin , N=(It-Q)-Ly munder of torresent states. Absorbing probability B = NR

Non sere 1 × h metrie denibing tale).

Plansiert in alsorbing

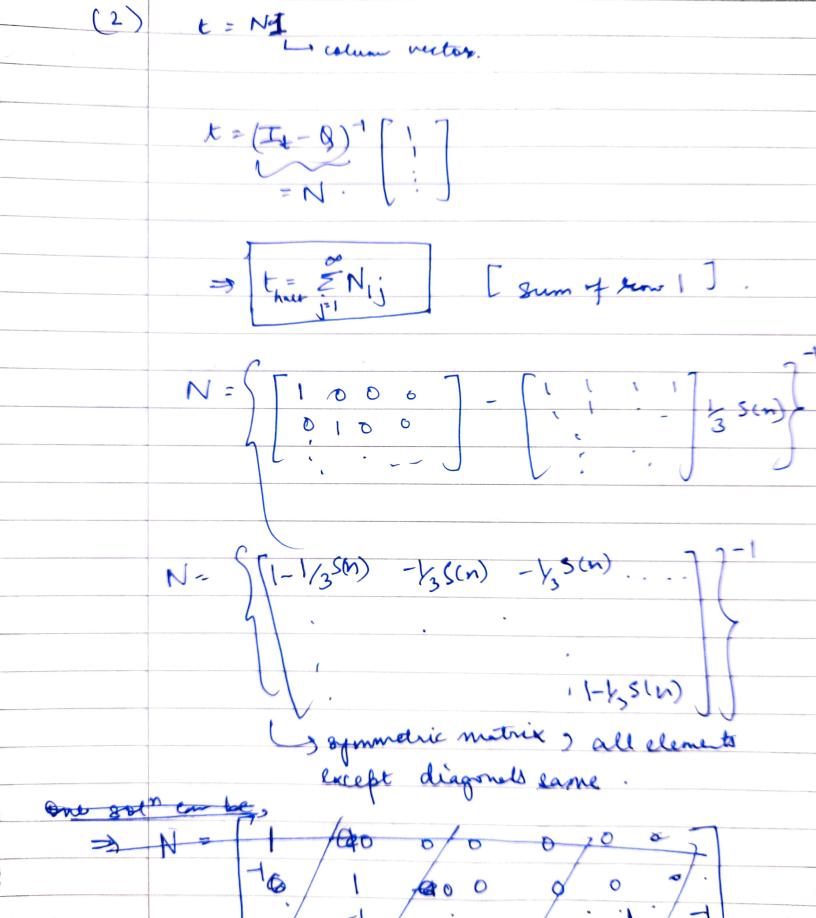
(him p)

ij' = Bij

n-100 (i=1 to j=0)

=> more, less or same. => Assuming all home
level probability, P= K= 1/3 1/3 ...

1/3 1/3 - - ... Rez P. (t) 2 1 Ze-pt (pt) 1/11 traidin matrix. for g, drop last now and last column of P. As or, no difference.



1- S(M) M(sh))+3 -S(n) + ... -.nS(n)+3ther = Z Nij = 1 - Z S(n) in S(n+3 = 1 - m'S(n) m/s(n) +3/n that z 1 - MS(n) ns(n) + 3 (3) E[IZn1] Loo + n>1. and E[Zn | Zn-1, ..., Z1] = Zn-1 +n>2 Martigale of the product form, E[2m) =1 for n +0. 2m = exp 3 nSn - nY(2)}

$$\lambda_{n} = \sup_{Y \in Y(n)} \{ X_{n} = Y(n) \} \{ X_{n-1} .$$
 $\lambda_{n} = Y(n)$ 
 $\lambda_{n} =$ 

and region required.