

# Random Variable

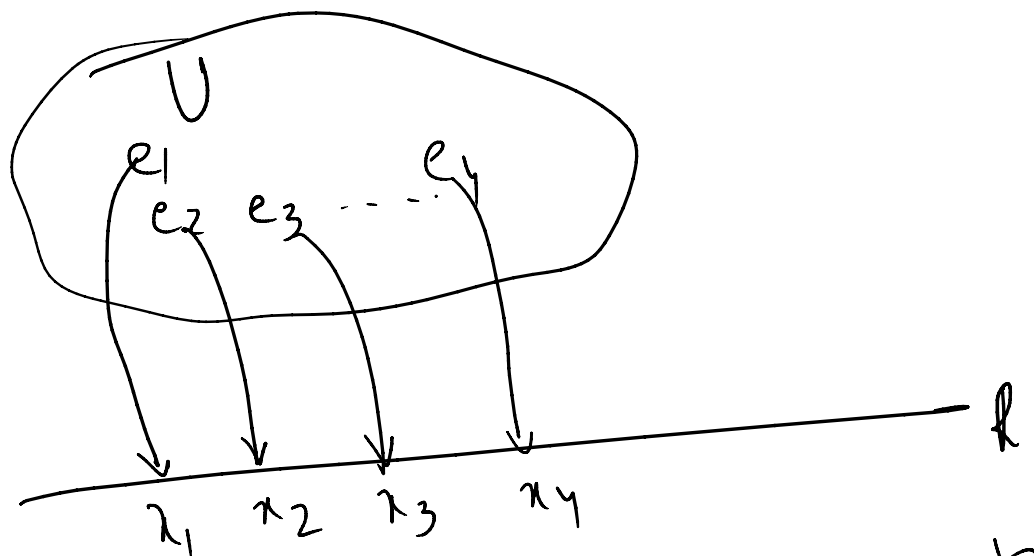
enable us to associate numerical quantities with some experiment.

Theorem -! let  $E$  be an experiment whose outcome are a sample space  $U$  for which the probability  $P(e)$  is defined for each mapping outcome  $e \in U$ . A random variable is a function  $X(e)$  that associate a number with each outcome.

Random process  $\rightarrow$  is associated with a time instant  $n$   $X(n)$  <sup>a R.V</sup>

$E \rightarrow$  Tossing a coin  
 $U = \{H, T\}$

$P(H) -$   
 $P(T) -$



$$\overline{x_1 \quad x_2 \quad x_3} \quad x_4$$

R.v is a fn that maps outcomes to  
to number on the real line.