IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

INNOVATIVE TEACHING OF PROBABILITY

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ABSTRACT

Probability is one of the fastest growing and important subject in statistical mathematics current paper deals with the basic and brief introduction to probabilitythrough random experiment and trials including few example

INTRODUCTION

Concept of probability is from time unknown in human civilization .Laplace pascaletc gave then mathematical interpretation which is growing very fast

The theory of probability provides mathematical model for “real world phenomena” involving games and chance such as tossing of a coin or a dice etc

Random experiment

Probability has additive property and frequency interpretation To deal with these properties of probability situations we need a mathematical description or model any such as “random experiment”

NOTATION:

(1) Tossing of a coin or dice

(2) Taking a card from a pack of 52 cards

Trial

Each performance in a random experiment is called a trial all the trals are conducted under the same set of conditions

Example:-1

Tossing of coin one time gives S ={H,T} where S is totality of all the possible outcome

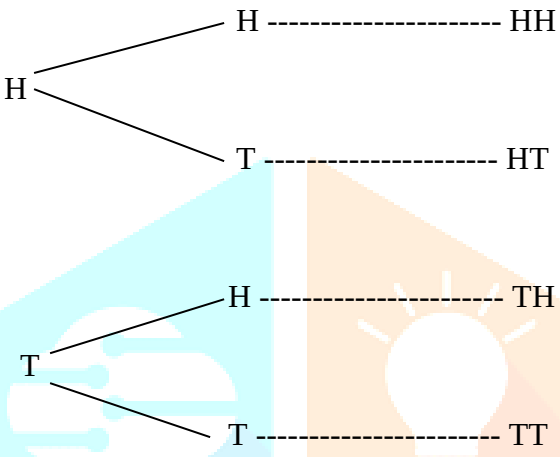
i.e sample space:

its tossing two time gives

S ={HH,HT,TH,TT} where H is Head & T is tail

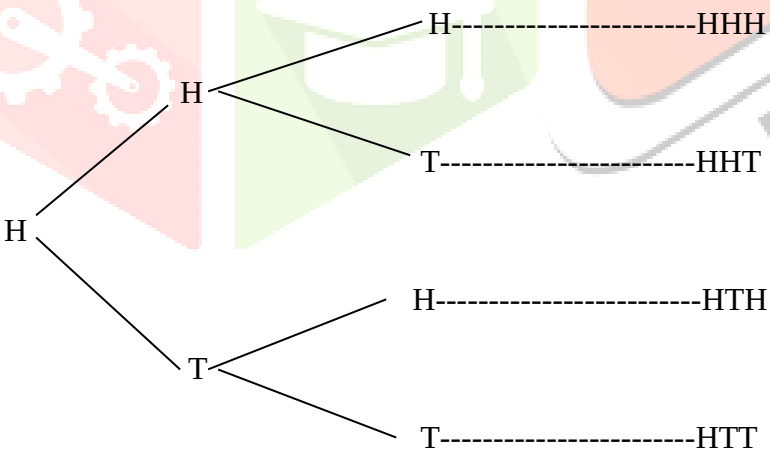
The three diagram of outcome in tossing

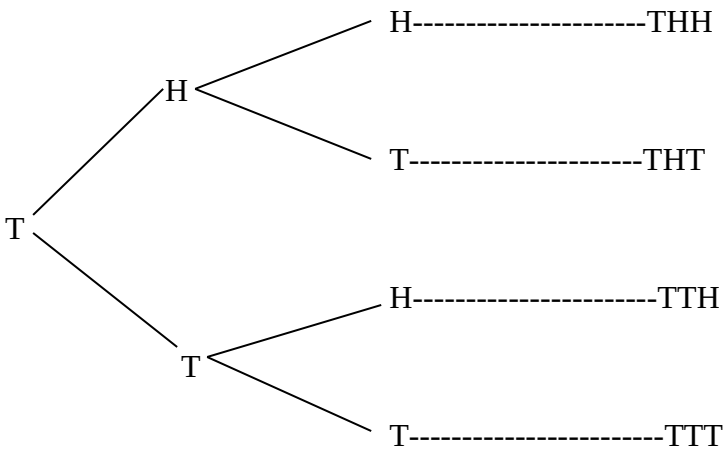
Tossing 1st 2nd outcome



its tossing three time gives

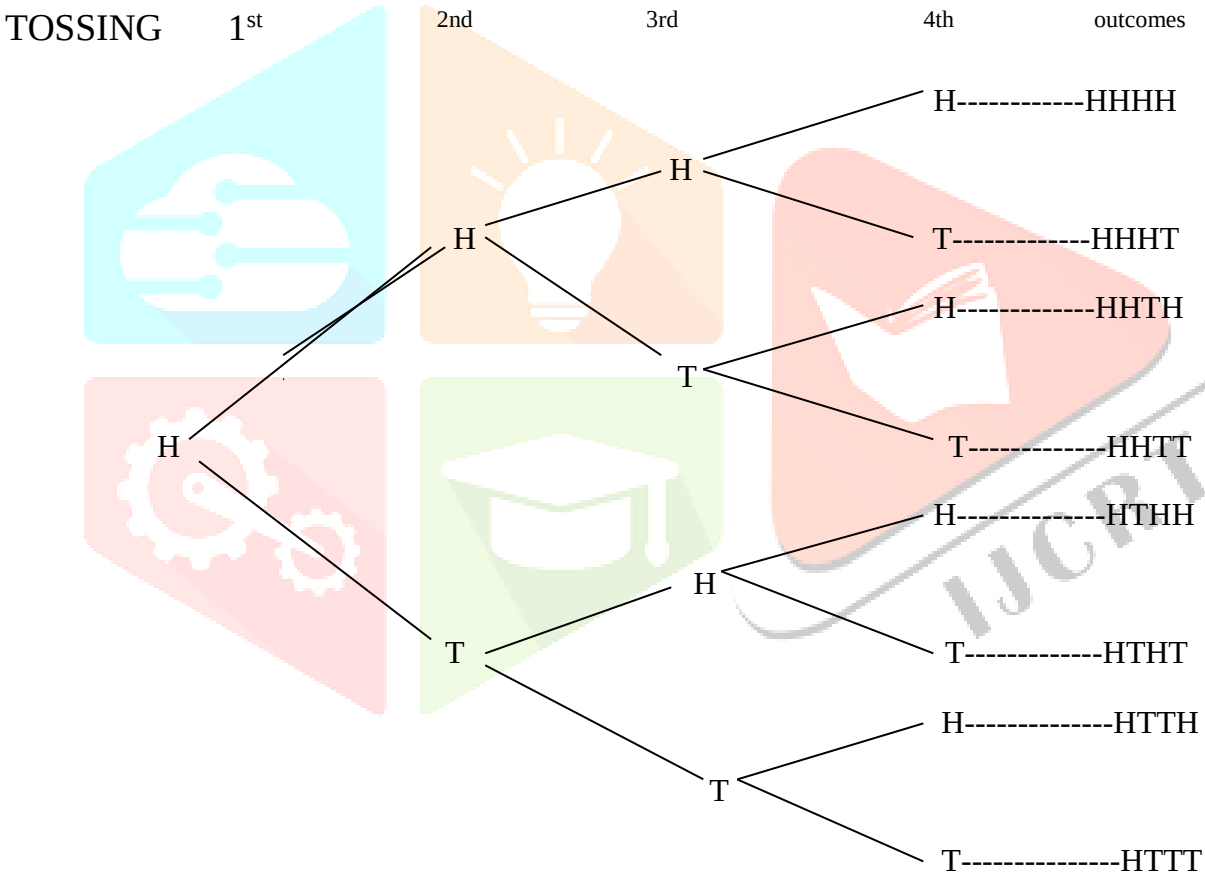
Tossing 1st 2nd 3rd outcome

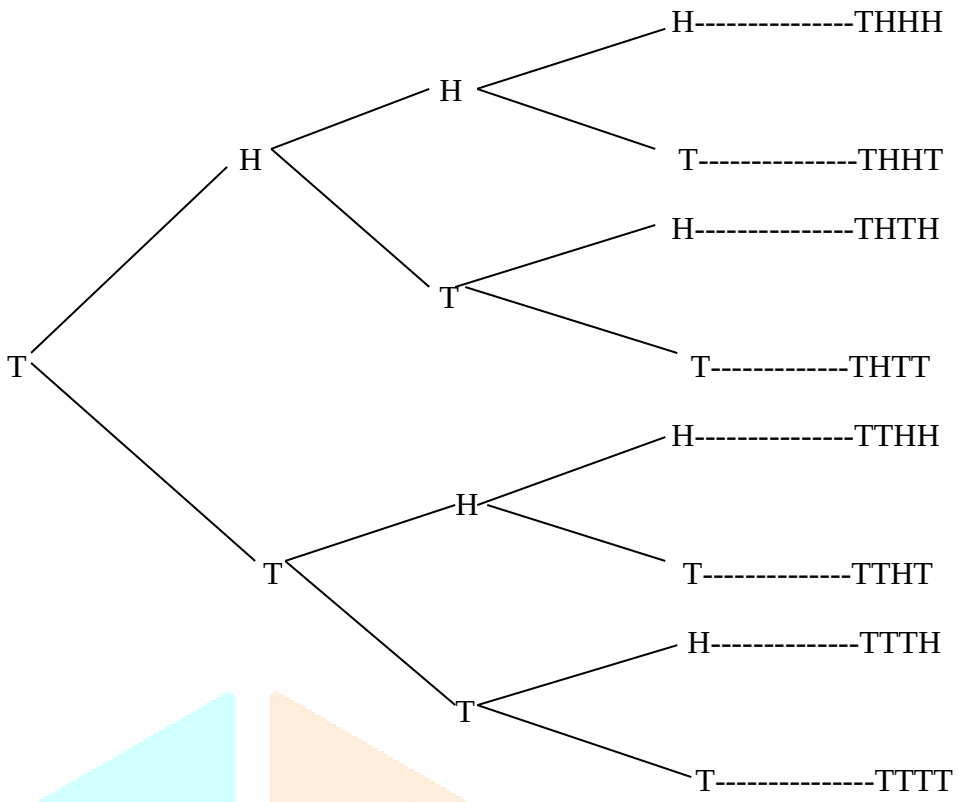




S ={HHH,HHT,HTH,HTT,THH,THT,TTH,TTT}

Its tossing 4 times gives





S ={HHHH,HHHT,HHTH,HHTT,HTHH,HTHT,HTTH,HTTT,THHH,THHT,THTH,THTT,

TTHH,TTHT,TTTH,TTTT}

- FINITE PROBABILITY SPACE

Let sample space S be finite S ={a_1,a_2 ---- a_n }

Where a_1,a_2,---------a_n are elementary event

Let p(a_i) = p_i € [0,1] I € {1,2----n}

(I) pi ≥ 0 (ii) –P1+P2+----------Pn=1

then pi is called probability of ai for A ⊂ S P(A)=∑ ai€A P(ai)=∑ ai€A pi

where p(A)is called probability of event A

thus the distribution of probability w.r.t be outcomes of s is a follows

outcomes a1 a2 ----------an

probability p1 p2----------pn

this is called probability distribution

P(A) = number of elements of A / number of elements of S

=n(A)/n(s)

from eg1 the probability of getting head and tail alternatingly on tossing the coin 3 times and 4 times is given below

TOSSING OF COIN	S	n(S)	A	n(A)	P(A)=n(A)/n(S)
One time	{H,T}	2	-	-	-
Two time	{HH,HT,TH,TT}	4	-	-	-
Three time	{HHH,HHT,HTH,HTT, THT,THH,TTT}	8	{HTH, THT}	2	2/8=0.25
Fourth time	{HHHH,HHHT,HHTT,HHTH,HTHH HTTH, HTTT,HTHT,THHH,THHT, THTH,THTT,TTHH,TTHT,TTTH, TTTT	16	{HTHT, THTH}	2	2/16=0.125

CONCLUSION

The theory of probability contrives mathematical portrate for real world phenomena involving game and chances

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