2 Jun 22

Buy a Computer

Modules of CPU Box = 3
Modules of Key Board = 2
Modules of LED = 2

$= 3 \times 2 \times 2$
$= 12$

There are 12 way of building Cpu

Multiplication Rule

If an experiment consist of k steps.
1st step can be done

in n ways. ...

2nd " n_2 "
3rd " n_3 "
k^{th} " n_k "

Then total outcomes of experiment are

$n_1 \times n_2 \times n_3 \times \ldots \times n_k$

Pots : 2
P_1 and P_2

P_1 has two black balls (B_1 and B_2) and one white Ball

P_2 : two white balls (W_1 W_2) and a Black Ball (B)

Experiment

i) Chose port randomly
ii) Chose a Ball randomly
iii) Chose 2nd Ball randomly without replacement.

1. Total number of outcome of experiment

i) → 2
ii) → 3
iii) → 2

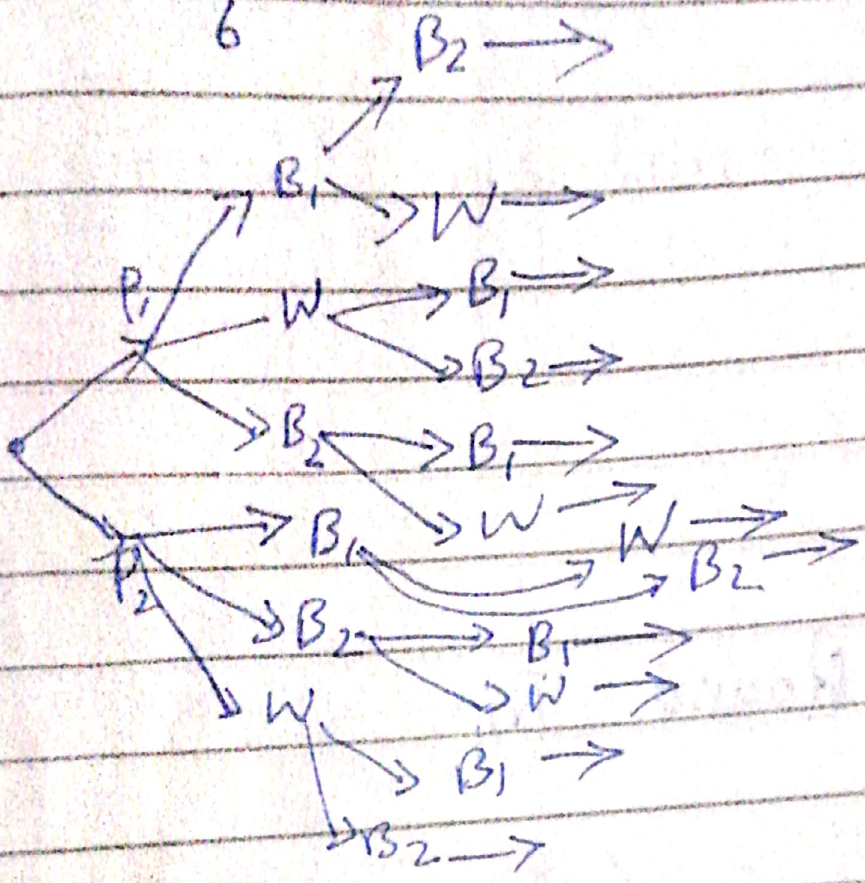
without replacement

Total outcomes = 3 × 2 × 2
N(S) = 12

Prob of two Black Balls chosen

$$P(E) = \frac{N(E)}{N(S)} = \frac{2}{12}$$

2 1/6



Prob of getting diff colours

$= \frac{8}{12}$

City A, B, C

Three routes from A to B = 3
Roads from B to C = 5

= 5 x 3
15

For **Round** Trip

step1 = A to B
step2 = B to C
step3 = C to B
Step4 = B to A

15 x 8

Case 2 we can't use same road again
A to B → 3
B to C → 5
C to B → 4

Step 4 : B to A = 2

3 × 5 × 4 × 2 =

S = { A, B, C, D }

4! = 24

Permutation

A Permutation of set of "n" objects is an ordering of objects in row.

COMPUTER

1 1 1 1 1 1 1 1

8 7 6 5 4 3 2 1

8!

= 40320 ways to rep comp in diff ways.

Cond 0 in same position

7!

Factorial is a way of counting

ALGORITHM

9 8 7 6 5 4 3 2 1

ALGORITHM

1 2 3 4 5 6

$$= \frac{9!}{6!}$$

$$= \frac{9 \times 8 \times 7 \times 6!}{6!}$$

$$= 9 \times 8 \times 7$$