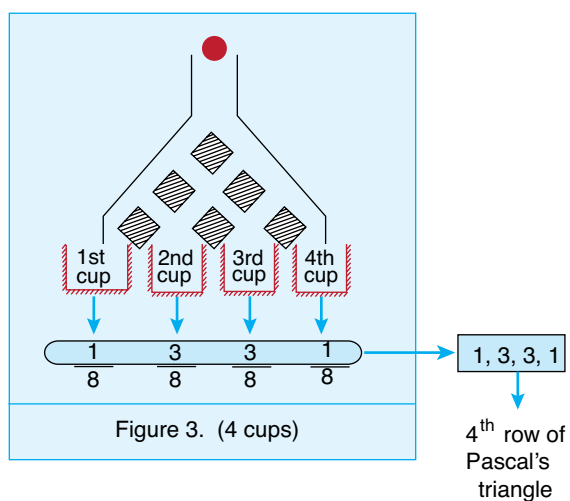
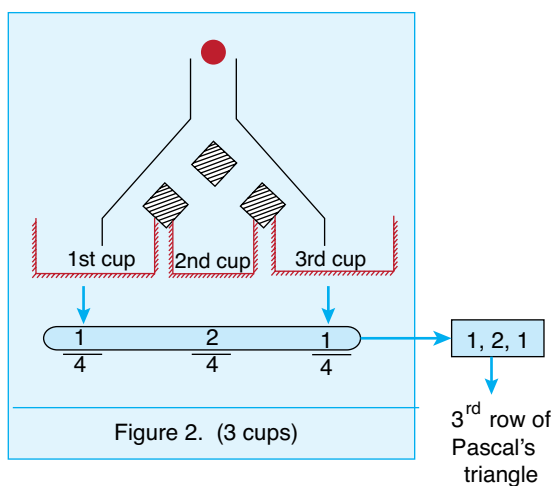
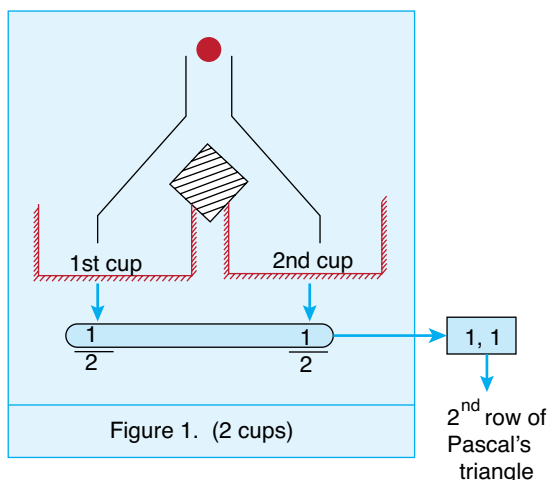


PASCAL'S TRIANGLE AND PROBABILITY

For each machineries given below, the ball left up to the bottom goes to right or left side with the same probability.



For n cups, the probability for each cup is shown below.

1st cup	2nd cup	3rd cup	$(n-1)$ th cup	n th cup
$\frac{\binom{n-1}{0}}{2^{n-1}}$	$\frac{\binom{n-1}{1}}{2^{n-1}}$	$\frac{\binom{n-1}{2}}{2^{n-1}}$		$\frac{\binom{n-1}{n-2}}{2^{n-1}}$	$\frac{\binom{n-1}{n-1}}{2^{n-1}}$

Final Goal

For 100 cups, find the probability of this ball fall into the 4th cup.

Solution

$$n - 1 = 99, n = 100$$

Probability is,

$$\frac{\binom{99}{3}}{2^{99}}$$