Assignment 8

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1 Gate Problem 2 :

There are **3** red socks , **4** green socks and **3** blue socks. You choose **2** socks. The probability that they are of the same colour is ?

Solution:

A	Event for red chosen socks
B	Event for green chosen socks
C	Event for blue chosen socks
E	event of chosen socks having same colour

$$P(A) = \frac{\binom{3}{2}}{\binom{9}{2}} = \frac{3}{36}$$

$$P(B) = \frac{\binom{4}{2}}{\binom{9}{2}} = \frac{6}{36}$$

$$P(C) = \frac{\binom{2}{2}}{\binom{9}{2}} = \frac{1}{36}$$

$$
\begin{aligned}
P(E) &= P(A) + (B) + P(C) \\
&= \frac{3}{36} + \frac{6}{36} + \frac{1}{36} \\
&= \frac{10}{36} \\
&= 0.278
\end{aligned}
$$