AI1103 : Assignment-5

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Download all python codes from

https://github.com/Rahul27n/Assignment_5/blob/main/Assignment_5.py

and latex-tikz codes from

https://github.com/Rahul27n/Assignment_5/blob/main/Assignment_5.tex

1 QUESTION: Q.2 UGC 2018(Dec Math set-a)

Out of 6 unbiased coins, 5 are tossed independently and they all result in heads. If the 6th coin is now independently tossed, the probability of getting head is:

(a) 1
(b) 0
(c) $\frac{1}{2}$
(d) $\frac{1}{6}$

2 SOLUTION

Define a random variable $X = \{0, 1\}$ denoting the outcome of the toss of 6th coin with $X = 0$ and $X = 1$ representing tails and head respectively.Therefore,

$$\Pr(X = 0) + \Pr(X = 1) = 1 \tag{2.0.1}$$

$$\Pr(X = 1) = \frac{1}{2} \tag{2.0.2}$$

Hence the correct answer is option (c).