Assignment 1

AI1110: Probability and Random Variables
Indian Institute of Techonology Hyderabad

Kunchala Karthik
CS22BTECH11034

12.13.4.3: Question.Let X represent the difference between the number of heads and the number of tails obtained when a coin is tossed 6 times. What are possible values of X?

Solution:

Let X represent the difference between the number of heads and the number of tails obtained when a coin is tossed 6 times. The possible values of X are:

TABLE 0: Values of n and X

Parameter	Value	Description
n	0	The number of tails obtained in 6 tosses
X	-6	The difference between heads and tails $(2n - 6)$
n	1	The number of heads obtained in 6 tosses
X	-4	The difference between heads and tails $(2n - 6)$
n	2	The number of heads obtained in 6 tosses
X	-2	The difference between heads and tails $(2n - 6)$
n	3	The number of heads obtained in 6 tosses
X	0	The difference between heads and tails $(2n - 6)$
n	4	The number of heads obtained in 6 tosses
X	2	The difference between heads and tails $(2n - 6)$
n	5	The number of heads obtained in 6 tosses
X	4	The difference between heads and tails $(2n - 6)$
n	6	The number of heads obtained in 6 tosses
X	6	The difference between heads and tails $(2n - 6)$