

ASSIGNMENT 3

CS21BTECH11053

Abstract—From NCERT Mathematics Class 9, Chapter 15

Problem (15.11). *Eleven bags of wheat flour, each marked 5 kg, actually contained the following weights of flour (in kg): Find the probability that*

Weights	4.97	5.05	5.08	5.03	5.00
5.06	5.08	4.98	5.04	5.07	5.00

TABLE I
WEIGHTS OF BAGS

any of these bags chosen at random contains more than 5 kg of flour.

Solution:

We will define random variable X such that $X \in \mathbb{R}$ and X represents the weight of the bag.

We are required to find the probability when random variable exercise $X > 5$. Note that the number of bags with $X > 5$ is given by

$$n(X > 5) = 7 \quad (1)$$

The sample space S consists of 11 bags. Hence

$$n(S) = 11 \quad (2)$$

Hence the probability where $X > 5$ from (1) and (2) is given by

$$P(X > 5) = \frac{n(X > 5)}{n(S)} \quad (3)$$

$$= \frac{7}{11} \quad (4)$$

$$= \boxed{0.636} \quad (5)$$

Code Output:

```
Python 3.9.7 (tags/v3.9.7:1016ef3, Aug 30 2021, 20:19:38) [MSC v.1929 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:\Users\Welcome123\Desktop\Flour\flour.py =====
The probability that random variable X > 5 is 0.6363636363636364
>>>
```