

0. Read Chapter 4 in NSI book by yourself.

1. (Exercise 4.2 on page 149 of NSI book)

A group of four coins is tossed 160 times, and the following data are obtained:

Number of heads	0	1	2	3	4
Frequency	16	48	55	33	8

Do you think the four coins are balanced?

2. (Exercise 4.16 on page 151 of NSI book)

If we wish to estimate a cumulative distribution within 0.20 units with probability 0.95, how large should n be?

3. (Exercise 4.18 on page 151 of NSI book)

In a vibration study, a random sample of 15 airplane components were subjected to server vibrations until they showed structural failures. The data given are failure times in minutes. Test the null hypothesis that these observations can be regarded as sample from the exponential population with density function $f(x) = e^{-x/10}/10$ for $x \geq 0$.

1.6, 10.3, 3.5, 13.5, 18.4, 7.7, 24.3, 10.7, 8.4, 4.9, 7.9, 12.0, 16.2, 6.8, 14.7

4. (Exercise 4.30 on page 154 of NSI book)

For the data 1.0, 2.3, 4.2, 7.1, 10.4, use the most appropriate procedure to test the null hypothesis that the distribution is

(a) Exponential $F_X(x) = 1 - e^{-x/b}$ (estimate b by \bar{x})

(b) Normal

In each part, carry the parameter estimates to the nearest hundredth and the distribution estimates to the nearest ten thousandth.