

Statistical Computing
Activity 2

Write the R code to answer the following questions.

1. Calculate the sum $\sum_{j=1}^n j^2$ and compare with $n(n+1)(2n+1)/6$, for $n = 200, 400, 600, 800$.
2. Using `rep()` and `seq()` as needed, create the vectors:

0 0 0 0 0 1 1 1 1 1 2 2 2 2 2 3 3 3 3 3 4 4 4 4 4

1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5

1 2 3 4 5 2 3 4 5 6 3 4 5 6 7 4 5 6 7 8 5 6 7 8 9

3. Write the R code to calculate the standard sample variance formula

$$s^2 = \frac{1}{n-1} \sum_{i=1}^n (x_i - \bar{x})^2$$