ELEN 3381 Assignment #3

Due date: Shown on the Blackboard.

Implement MATLAB code that calculates the following formula. Use your student ID as eight 1 digit data to be used for your calculation. (μ : average)

$$\mathrm{Var}(X) = \frac{1}{n}\sum_{i=1}^{n}(x_i - \mu)^2$$

Compare the result from your code with the result produced by MATLAB function "var(X)", where X contains the data.

Hypothesize the reason why they are different.

Modify your code (not MATLAB "var(X)") and show the correctness of your hypothesis.

Please submit:

1. Your MATLAB code that implements the above equation. (4 pts)
2. Copy of a screenshot after your program is executed. (1 pt)
3. Compare your result with the result produced by using MATLAB provided function "var". (1 pt)
4. Hypothesize the reason. Describe your hypothesis. (2 pts)
5. Verify the correctness of your hypothesis by modifying your MATLAB code (not "var"). Show the result from the modified code. (2 pts)