

Course 161/2S3, Tutorial Sheet 3

- Write a **C** program which uses **while** loops to calculate the mean and variance of N numbers. Modify the program so that it uses **for** loops rather than **while** loops.

Note

The mean, \bar{x} of the numbers x_i is

$$\bar{x} = \frac{1}{N} \sum_{i=0}^{N-1} x_i$$

The standard deviation σ of the numbers is.

$$\sigma = \sqrt{\left(\frac{1}{N} \sum_{i=0}^{N-1} (x_i - \bar{x})^2 \right)}$$

- Write a **C** program which calculates the sum of the absolute values of N numbers. Your program should read in N numbers first.