



CSC 221 - Data Structures & Algorithms - Assignment 1	
CLO-3	Deadline: 12 th November, 21
Class: BSE-3A/B	Total Marks 10

1. Design an algorithm to read a list of real numbers representing numeric scores, call functions to calculate their mean and standard deviation, and then call a function to determine and display the letter grade corresponding to each numeric score. Considering the following equations and table for letter grade:

Here, m is the mean score and δ is the standard deviation; for a set of n numbers x_1, x_2, \dots, x_n , these are defined as follows:

$$m = \sum_{i=1}^n x_i / n \quad \sigma = \sqrt{\frac{1}{N} \sum_{i=1}^N (x_i - \mu)^2}$$

$x = \text{Numeric Score}$	Letter Grade
$x < m - \frac{3}{2}\delta$	F
$m - \frac{3}{2}\delta \leq x < m - \frac{1}{2}\delta$	D
$m - \frac{1}{2}\delta \leq x < m + \frac{1}{2}\delta$	C
$m + \frac{1}{2}\delta \leq x < m + \frac{3}{2}\delta$	B
$m - \frac{3}{2}\delta \leq x$	A

2. Suppose a linked list in a memory consisting of numerical values. Select a procedure for each of the following tasks:
 - a) Maximum Value
 - b) Average
 - c) Product