EEE 416: Microprocessor and Interfacing Laboratory

Lab Test

Date: 30/05/2021 Time: 40mins

Marks: 30

Problem 1

You have two byte type arrays of your GPAs of 8 consecutive terms. You need to calculate your cumulative GPAs first by simply averaging them. Then, convert you CGPAs to equivalent percentage marks.

Formula for this conversion:

(a) Percentage = 79 + 84×(X-3.75); where 3.75<= X <= 4.00
(b) Percentage = 44+ 20× (X-3.75); where 2.20<= X <= 3.75

Given array: A DB 4.00, 3.75, 3.50, 3.96, 3.98, 3.86, 3.88, 3.86

B DB 3.36, 3.4, 3.7, 3.5, 3.30, 3.54, 3.56, 3.63

Write an assembly program to calculate CGPA and percentage marks from given information and store the results in a new array.

Problem 2

Write an assembly program which most efficiently transposes a 3×3 matrix. A is the transpose of B if the rows of A are Columns in B. Declare both these matrices in row major format.