**BLG 438E**

**Report for 2nd Experiment**

**1-a) (30 p)** Find the transfer function for the system flow diagram below.

**Vin**

**z-1**

**0.25**

**z-1**

**0.5**

**Vout**

**0.25**

A

B

C

**1-b) (40 p)** This system is implemented in an interrupt function of a software. Write the pseudocode which contains “I = READ(ADC)” and “OUTPUT(Y)” lines where I and Y are global variables of type Int16. You can use A, B and C for other global variables.

**2-)(30 pt)** In Matlab, implement the system which has a transfer function of . Show response of the system to input signal X(t) = 1.6cos(2ft). Use 10-2 Hz and 1 Hz frequencies.

**HINT for the system flow diagram:** For the example in the experiment sheet, the pseudocode can be written as:

I = READ (ADC)

A = I + 1.5 B – 0.5 C

Y = 5 A + 10 B

OUTPUT(Y)

C=B

B=A

RETURN

Where A, B, C are global variables .