Assembly Language (C, D, E)
Fall 2022
Assignment-2
Total Marks:60
Submission: Submit on google classroom. Submit each question as separate file in a folder, DONOT ZIP YOUR FOLDER/FILES. Name you folder as you roll number like XXLXXXX. Name of the file will be number of question like QuestionX.
DONOT SHARE YOUR CODE WITH ANYONE.
DO NOT COPY ANYONES CODE.
DO NOT PLACE YOU CODE AT UNSECURE LOCATION.
Deadline 3rd October 2022, till midnight. 25% will be deducted for late submissions.

Question 1:[15 marks]
Write a program that find mean of array.

mean of an array = sum of element/number of elements.

The mean should be stored in memory location MEAN. You can not use div command. You can assume that the array size will always be power of 2 and will fit in 8 bits. Ignore the fractional part of the mean. Size of array is also provided.

For example:
myArray db 1, 2, 2, 3, 1, 3, 2, 3
size db 8
MEAN db 2

mean = (1+2+2+3+1+3+2+3)/8 = 17/8 = 2

Question 2:[15 marks]
Write a program that find MOD of an array of size 7. MOD is most frequent term in array. The mode should be stored in memory location MOD.

For example:
myArray db 1, 2, 2, 3, 1, 3, 2
MOD db 2

If there are two numbers has same frequency then store the Greater one .
For example:
myArray db 1, 2, 2, 3, 1, 3, 2, 1
MOD db 2

Question 3:[15 marks]

Write an assembly program that checks in binary whether a 16-bit number is palindrome or not. Move 1 in dx register if it is a palindrome else move 0 in dx register. Palindrome is a number which reads the same backward or forward.
For example
0xA425 is a palindrome. This number in binary reads the same backward or forward (shown below).

1	0	1	0	0	1	0	0	0	0	1	0	0	1	0	1

Question 4:[15 marks] Given a sequence of 32 bytes (i.e. 32*8= 256 bits) where bits are numbered as follows: [the first row below is showing sample bit sequence while the second row is showing the bit numbering.]

1……..……..…1000011100111010
255……...……..……76543210

- Write an assembly program which takes starting bit number in ax and number of bits in bx. The program should **clear bx number of bits** in the sequence of 32 bytes starting from bit number ax. For example, if ax = 3 and bx = 4, the above sample sequence will be changed to the following sequence.

1……..……..…1000011100000010
255……...……..……76543210