National University of Computer and Emerging Sciences, Lahore Campus

Course Name:	COAL - LAB	Course Code:	EL2003
Program:	BS(Computer Science)	Semester:	Fall 2023
Duration:	1 Hour	Total Marks:	25
Paper Date:	22-Sep-23	Weight:	7.5%
Section:	BCS-3H	Pages:	1
Exam:	Quiz-1		

Student : Name:_____ **Roll No.**_____ **Section:**_____

Instruction/Notes:

1. Understanding the question paper is also part of the exam, so do not ask any clarification.
2. Talking/Discussion is not allowed. It is your responsibility to protect your code and save it from being copied. If you don't protect it all matching codes are considered copy/cheating cases.
3. Failure to observe above mentioned instructions will lead to a negative mark on the Exam.

Question 1: Write an assembly language program that processes a Given_Array (of bytes), calculates the pairwise sum of its elements, and saves the result in PairwiseSumArray. The first element is paired with the last element, the 2nd element is paired with the 2nd last element, and so on. See the Sample Run below for details.

Sample Run:

Example 1, even sized array	Example 2, odd sized array
ArrSize: 8	**ArrSize**: 9
Given_Array: 10, 2, 3, 4, 50, 62, 70, 8	**Given_Array**: 10, 2, 3, 4, 77, 50, 62, 70, 8
PairwiseSumArray: 18, 72, 65, 54	**PairwiseSumArray**: 18, 72, 65, 54, 77
Description: Elements of Pairwise Sum Array are calculated as: (10+8 = 18), (2+70 = 72), (3+62 = 65), (4+50 = 54)	**Description**: Result is the same as Example 1, the middle element, with no pair, is copied at the end as it is.

Note: You are not required to write subroutines. You may keep both the arrays (i.e., Given_Array and PairwiseSumArray) of ArrSize and ignore extra space at the end of PairwiseSumArray.

Question 2: Write an assembly program, such that given an array of ten integers (each integer is stored as a word), your program finds and stores the sum of unique elements of an array in a memory label called "sum" (defined word).