National University of Computer & Emerging Sciences, Karachi
FAST SCHOOL OF COMPUTING
Computer Organization & Assembly Language (EE 2003) Fall 2025
Assignment # 03 **Deadline: 1st, Dec-2025**

Q -1 : Write a recursive procedure in x86 assembly language that divides a number by another number and stops when the dividend is less than or equal to 5h. Consider dividend = D4A4h and divisor = Ah. The Intel IA-32 version of this program is required.

Q-2: Write an assembly language program to read a string of characters from the user and print/store the vowel count. For each vowel, the count includes both uppercase and lowercase letters. For example, the input string
"Advanced Programming in UNIX Environment"
Produces the following output:
Vowel Count
a or A = 3 i or I = 4 u or U = 1
e or E = 3 o or O = 2

Q-3 : Create a variant of the Str_trim procedure that lets the caller remove all instances of a leading character from a string. For example, if you were to call it with a pointer to the string "###FAST" and pass it the # character, the resulting string would be "FAST".

Q-4 : Create a procedure named FindFive that returns 1 if an array has five consecutive values of 5 somewhere in the array. Otherwise, return 0. The procedure's input parameter list contains a pointer to the array and the array's size. Use the PROC directive with a parameter list when
declaring the procedure. Preserve all registers (except EAX) that are modified by the procedure.
Write a test program that calls FindFive several times with different arrays.