

Course Code: EE2003	Course Name: Computer Organization & Assembly Language
Instructor Names: Shoaib Rauf, Kashan, Aashir Mahboob, Atiya, Kariz Kamal , Muhammad Usman, Nauraiz Subhan	

Instructions:

- Attempt all the questions.
- Don't share your work, if your submission is matched to any member of your class, both will be marked 0 straight without asking who shared or who magically copied.
- No late submissions will be accepted.
- Assignment should be Hand written and a PDF file of scanned copies must be uploaded on GCR.

Max Points: 30**Question 1.****[5] Points**

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

Questions 2**[5] Points**

Write a recursive procedure to find a value in a large integer array. Ask the user to enter an integer value in the main program. You should pass user supplied value as parameter to the recursive function using the INVOKE directive. Also, draw labeled diagrams to show stack values at each iteration of this recursive function.

Question 3**[5] Points**

Write an assembly language program to copy the characters of a string to a target string. The characters are stored in such a way that only a single instance of any character in the string is stored. Initialize a source string to: "This is the source string".

Question 4**[5] Points**

Write an assembly language program to read a string of characters from the user and prints/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

Question 5**[5] Points**

Write a procedure named `DifferentInputs` that returns `EAX = 1` if the values of its three input parameters are all different; otherwise, return with `EAX = 0`. Use the `PROC` directive with a parameter list when declaring the procedure. Create a `PROTO` declaration for your procedure, and call it five times from a test program that passes different inputs.

Question 6**[5] Points**

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 `“###ABC”` and pass it the `#` character, the resulting string would be `“ABC”`.