SYSTEMS PROGRAMMING : Class Test I

Instructions: 1. **Total Marks: 20 Duration 1 Hour (2 PM – 3 PM)**
2. Date : 10-10-2020
2. Upload pdf file in Microsoft Team
3. If you have any query, send message through Microsoft Team Chat

1. Write necessary instructions in assembly language to implement loops of the type (i) while condition do … , (ii) repeat … until condition and (iii) for each case … do to add elements of an integer array of size 15. For each case, write separate instructions.
2. While executing instructions by 8086 processor, explain the role of various registers including flag register.
3. Write a sequence of instructions in assembly language to divide AX by BX and put the quotient in CX **without using DIV instruction.**
4. Read one integer from keyboard. Extract all individual digits of the integer and push into stack. Now pop from stack and find the sum of individual digits. Display the sum. Write the necessary assembly code.
5. To illustrate the concept of passing parameters by value and passing parameters by address, write appropriate procedures in assembly language for addition of two 16 bit integers. Assume that no overflow will occur after addition. Write also the corresponding main code.
6. Count the number of 0s in a 16 bit binary string available in memory location STR1. Remember that content of STR1 will not change. Use shift and rotate operators only. Write the corresponding assembly code.

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