

### Homework - Array and Loops (jnz)

**Activity 1:** Write a program that computes arithmetic sum of first N numbers in AX where N is a memory variable. If  $N = 6$ , your program should calculate  $6+5+4+3+2+1 = 21$  in AX. Test your program on different numbers.

**Activity 2:** Write a program that computes square of 'num' and saves it in 'square'. Where num and square are two memory variables of word length. For any number n, your program should add n, n times to produce its square. For example ( $5^2 = 5+5+5+5+5$ ). Test your program on num = 5 and num = 9.

**Activity 3:** Write a program that reads array1 and saves it in array2 in reverse order. Sample run is given below.

Array1: 1, 2, 3, 4, 5, 6  
Array2: 0,0,0,0,0,0

After Program Execution:

Array1: 1, 2, 3, 4, 5, 6  
Array2: 6, 5, 4, 3, 2, 1

**Help:** You may need SI and DI (Source Index and Destination Index) registers to save two different indices.

**Activity 4:** Move a number (6 for this question) from a memory location in AX, move 4 into BX then find  $\text{num} * 4$  using ADD instruction and then divide that answer by 3 using SUB instruction. Store the results of multiplication and division (quotient) at different memory locations labeled as "**mresult**" and "**dresult**".

**Activity 5:** Write a program to generate first 10 terms of the Fibonacci Series. The generated terms are to be placed at memory location named "**Fib**" using indirect addressing