



## Computer Organization and Assembly Language

Lab 8	
Topic	1. Stack operations 2. Subroutine

### Question #1:

Write a subroutine which can subtract a value 'x' passed as a parameter from each element of an array and save the results in an array.

Let initially our array was:

X=15

Index	0	1	2	3	4	5	6	7	8	9
Value	20	60	10	15	90	30	70	50	40	100

After execution your array should be:

Index	0	1	2	3	4	5	6	7	8	9
Value	5	45	-5	0	75	15	55	35	25	85

### Question #2:

Write a subroutine which replaces the value of an array with 1 if the *sum of digits of that element is greater than 10* else replace it with 0.

***Make a subroutine for the sum of digits***, pass a number in it as a ***parameter***.

Let array 1:

Index	0	1	2	3	4	5	6	7	8	9
Value	4	24	13	11	19	25	38	99	75	17

then array 1 should be:

Index	0	1	2	3	4	5	6	7	8	9
Value	0	0	0	0	0	0	1	1	1	0



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## Question #3:

Write an assembly language program that will count the number of occurrences of a number passed as a parameter to a subroutine and save the result in variable total”.

Let number is

Without Using CMP and SUB instructions.

Array1 (byte size)

Index	0	1	2	3	4	5	6	7	8	9
Value	20	34	56	34	43	91	34	56	20	34