University of Central Punjab
(Incorporated by Ordinance No. XXIV of 2002 promulgated by Government of the Punjab)
FACULTY OF INFORMATION TECHNOLOGY

Computer Organization and Assembly Language

Lab 8	
Topic	• Add,sub • Memory addressing • Flags • Logical operations • Loops • Branching (JUMPS)

Problem #1:

Write a program that take the input value from an array index by index, and then reverse that value in the array. Size of array is 5.

EXAMPLE:

Array: DW 0x1234,0xABCD, 0xCDEF, 0x9876, 0x1478

Solution

Array: DW 0x4321,0xDCBA, 0xFEDC, 0x6789, 0x8741

Problem #2:

Write an assembly language program that will add the ascii values of the digits of all the individual nibbles within each element of a word array. Use minimum number of compares.

Index	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Value	0xABCD	0x1234	0X5678	0x9876	0x5432	0X7766	0XACE3	0x2536

Hint: A ascii (65) 1 ascii (49)

65+66+67+68+49+50+51+52+53+54+55+56+57+56+55+54+……

Sol:

Sum dw ?

Problem # 3:

Write an assembly language program to clear the n^{th} bit of a number of word size. Code should be generic.

1. Binary of F37E is : 1111 0011 0111 1110

   For-example

   Number: dw 0xF37E

   Position db 5 (5^{th} bit starting from LSB as 0^{th} bit)

   After Execution

   Number: dw 0xF35E

2. Binary of F37E is : 1111 0011 0111 1110

   For-example

   Number: dw 0xF37E

   Position db 7 (7^{th} bit starting from LSB as 0^{th} bit)

   After Execution

   Number: dw 0xF37E