

Computer Organization And Assembly Language

```
00000000: 01001101 01011010 10010000 00000000 00000011 00000000 MZ....
00000006: 00000000 00000000 00000100 00000000 00000000 00000000 .....
0000000c: 11111111 11111111 00000000 00000000 10111000 00000000 .....
00000012: 00000000 00000000 00000000 00000000 00000000 00000000 .....
00000018: 01000000 00000000 00000000 00000000 00000000 00000000 @.....
0000001e: 00000000 00000000 00000000 00000000 00000000 00000000 .....
00000024: 00000000 00000000 00000000 00000000 00000000 00000000 .....
0000002a: 00000000 00000000 00000000 00000000 00000000 00000000 .....
00000030: 00000000 00000000 00000000 00000000 00000000 00000000 .....
00000036: 00000000 00000000 00000000 00000000 00000000 00000000 .....
0000003c: 10000000 00000000 00000000 00000000 00001110 00011111 .....
00000042: 10111010 00001110 00000000 10110100 00001001 11001101 .....
00000048: 00100001 10111000 00000001 01001100 11001101 00100001 !..L.!
0000004e: 01010100 01101000 01101001 01110011 00100000 01110000 This p
00000054: 01110010 01101111 01100111 01110010 01100001 01101101 rogram
0000005a: 00100000 01100011 01100001 01101110 01101110 01101111 canno
00000060: 01110100 00100000 01100010 01100101 00100000 01110010 t be r
00000066: 01110101 01101110 00100000 01101001 01101110 00100000 un in
0000006c: 01000100 01001111 01010011 00100000 01101101 01101111 DOS mo
00000072: 01100100 01100101 00101110 00001101 00001101 00001010 de....
00000078: 00100100 00000000 00000000 00000000 00000000 00000000 $. ....
0000007e: 00000000 00000000 01010000 01000101 00000000 00000000 ..PE..
```

Lab Manual 04

Objectives:

1. Writing Assembly Programs
2. Revision of previous lab
3. Taking character input and Giving character and string output.

Lab Instructor:

Mr. Tariq Mehmood Butt

tariq.butt@pucit.edu.pk

Teacher Assistants:

Hafiz Muhammad Ahmad

bcsf21m502@pucit.edu.pk

Syed Muhammad Zain Raza

bcsf21m510@pucit.edu.pk

Zahra Malik

bcsf21m551@pucit.edu.pk

Bilal

bsdsf21m022@pucit.edu.pk

LAB TASKS

You are required to prepare the ASM file of each task and run the executable file in the debugger. For each Trace call, you must note the changes in registers.

Task 1:

Write an assembly code which can copy the content of 8-byte array1 to another array2.

Task 2:

Write an assembly code which can copy the content of 8-byte array1 to another array2 **in reverse order**.

Task 3:

Write an assembly code which can **SWAP** 8-byte array1 content with another array2.

Task 4:

Write an assembly code which can **SWAP in Reverse order** 8-byte array1 content with another array2.

Task 5:

Write an assembly code which Take a single digit number input from the user, and add it to each Byte of an 8-byte array declared in data segment.

Task 6:

Take a character input from user and display it.

Task 7:

Write an assembly code which Take a character input and tell whether it is capital or small.

→ Display "Capital" for capital letters and "Small" for small letter.

Sample Runs

i)

Enter a character: g

Small

ii)

Enter a character: H

Capital

Task 8:

Write an assembly code which Take two single digit numbers input and add them.

Display correct output if the sum is less than 10, otherwise print "Overflow".

Sample Runs

i)

Enter two digits: 56

Error! Sum is greater than 9.

ii)

Enter two digits: 34

Sum is 7

Note: You are required to the the above tasks for valid inputs and not required to handle invalid inputs.