Report For Lab 8

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**Objective:**

Explore the debugging features for a program in assembly using Visual Studio 2008 or 2010. This including the step feature, the breakpoint feature, and looking at the values of individual registers and how they change from step to step.

**Equipment:**

Windows Visual Studio 2010, step debugger, breakpoints, registers

**Results:**



Program during Part B

Question 1: The size of the ADD AL, Range instruction based on the EIP register change is 2 bytes

Question 2: The offset value of MESSAGE is 00405000

**Conclusion:** This lab showed the use of Visual Studio to debug an assembly program. Being able to look at the values of individual registers and how they change over time is very useful in debugging because you know what is happening from step to step. Being able to place breakpoints is useful when there is one particular step you want to look at, but don’t want to step through the entire program.

**Code:**

TITLE lab1.asm

COMMENT \*

DESCRIPTION: THIS PROGRAM CONVERTS A STRING OF

CHARACTERS FROM UPPER CASE TO LOWER CASE.

A 0 IS USED TO DENOTE THE END OF THE STRING.

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INCLUDE Irvine32.inc

BLANK EQU 20H

RANGE EQU 32

.data

MESSAGE DB 'MUMBO JUMBO', 0

.stack 100h

.code

main PROC

CALL CLrscr

MOV ESI, OFFSET MESSAGE

LOWER: MOV AL, [ESI]

CMP AL, 0

JZ DONE

CMP AL, BLANK

JZ NEXT

ADD AL, RANGE

MOV [ESI], AL

MOV EDX, OFFSET MESSAGE

CALL WriteString

CALL Crlf

NEXT: INC ESI

JMP LOWER

DONE: CALL Func1

exit

main ENDP

func1 PROC

MOV ESI, OFFSET MESSAGE

MOV ECX, LENGTHOF MESSAGE

MOV EBX, TYPE MESSAGE

CALL DumpMem

ret

func1 ENDP

END main