

Heaven's light is our guide



Rajshahi University of Engineering And Technology

Dept. of Computer Science & Engineering

Details

Course No : CSE 3110

Course Title : Microprocessors and Assembly Language

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Lab-3

Problem Statement :

Write a program that prompts the user to enter a string . reverse that string word by word and all vowel will be in capital letter.

Discussion:

In this problem I need to take a array which can contain duplicate letters. Then SI point to the initial address of the array. Take CX=0 , to count the number of letter in a word and BX=0 ,to use as a flag. If BX=1 ,then program don't take any input otherwise take input from user. This program push letter into stack until getting space or carriage return. When get space or carriage return then perform pop operation. When get a small vowel then turn it into capital letter using CAPITAL level, otherwise no change .

1.

Code:

<pre>1. INCLUDE 'EMU8086.INC' 2. .MODEL SMALL 3. .STACK 100H 4. .DATA 5. S DB 255 DUP("\$") 6. .CODE 7. MAIN PROC 8. MOV AX,@DATA 9. MOV DS,AX 10. PRINT "Enter a String : " 11. MOV CX,0 12. MOV BX,0 13. MOV SI,OFFSET S 14. MOV AH,1</pre>	<pre>43. CAPITAL: 44. SUB DL, 32 45. MOV [SI],DL 46. INC SI 47. JMP END_POP_ 48. END_POP_: 49. LOOP POP_ 50. MOV [SI],32 51. INC SI 52. CMP BX,0 53. JE PUSH_ 54. PRINTN 55. PRINT "REVERSE WORD WITH CAPITAL VOWEL : " 56. MOV AH,09H 57. LEA DX,S 58. INT 21H</pre>
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15. <i>PUSH_:</i> 16. <i>INT 21H</i> 17. <i>CMP AL,0DH</i> 18. <i>JE END_PUSH_</i> 19. <i>CMP AL,20H</i> 20. <i>JE POP_</i> 21. <i>INC CX</i> 22. <i>PUSH AX</i> 23. <i>JMP PUSH_</i> 24. <i>END_PUSH_:</i> 25. <i>MOV BX,1</i> 26. <i>JMP POP_</i> 27. 28. <i>POP_:</i> 29. <i>POP DX</i> 30. <i>CMP DL,97</i> 31. <i>JE CAPITAL</i> 32. <i>CMP DL,101</i> 33. <i>JE CAPITAL</i> 34. <i>CMP DL,105</i> 35. <i>JE CAPITAL</i> 36. <i>CMP DL,111</i> 37. <i>JE CAPITAL</i> 38. <i>CMP DL,117</i> 39. <i>JE CAPITAL</i> 40. <i>MOV [SI],DL</i> 41. <i>INC SI</i> 42. <i>JMP END_POP_</i>	59. <i>MOV AH,4CH</i> 60. <i>INT 21H</i> 61. <i>MAIN ENDP</i> 62. <i>END MAIN</i>
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Input & Output:

SCR emulator screen (80x25 chars)

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Enter a String : Allah is One  
REVERSE WORD WITH CAPITAL VOWEL : hA11A sI EnO
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Conclusion: This program gives write output according to the given input. Knowledge of Loop,jmp and stack is needed to solve this problem.