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Department of Computer Engineering

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|-----------------------|------------------------|
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|----------------------------|---|
| AIM: | To perform a Generation of alphabetic arrangement of a given string in 8086 (MASM) |
| Program 1 | |
| PROBLEM STATEMENT : | Reverse a string with pre-defined input value. |
| PROGRAM: | <pre>data segment s1 db "ABCDEF", "\$" data ends code segment assume cs:code, ds:data start: mov ax, data mov ds, ax lea si, s1 add si, 06h l: dec si mov dx, [si] mov ah, 02h int 21h jnz l mov ah, 4Ch int 21h code ends end start</pre> |
| RESULT: | |



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```
DOSBox 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, Program: DEBUG -
C:\>link REVERSE.obj

Microsoft (R) Segmented Executable Linker Version 5.31.009 Jul 13 1992
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Run File [REVERSE.exe]:
List File [nul.map]:
Libraries [.lib]:
Definitions File [nul.def]:
LINK : warning L4021: no stack segment

C:\>debug REVERSE.exe
-d 076A:0000
076A:0000  41 42 43 44 45 46 24 00-00 00 00 00 00 00 00 00 00  ABCDEF$.....
076A:0010  B8 6A 07 8E D8 BD 36 00-00 83 C6 06 4E 8B 14 B4    .j....6.....N...
076A:0020  02 CD 21 75 F7 B4 4C CD-21 E8 24 00 E8 21 00 E8    ..!u..L.!.$..!..
076A:0030  1E 00 E8 1B 00 E8 18 00-E8 15 00 E8 12 00 E8 0F    .....
076A:0040  00 E8 0C 00 E8 09 00 E8-06 00 E8 03 00 E8 00 00    .....
076A:0050  FA 1E 2E 8E 1E 00 00 A3-7A 13 55 8B EC 8B 46 0A    .....z.U...F.
076A:0060  25 FF BC A3 78 13 8C C0-87 46 04 5D 2D D3 12 51    %...x....F.l-..Q
076A:0070  B1 03 F6 F1 59 C1 E0 02-89 26 76 13 8C 16 74 13    ....Y....&v...t.
-g
FEDCBA
Program terminated normally
-
```

Program 2

| | |
|----------------------------|--|
| PROBLEM STATEMENT : | Check whether a given string Palindrome or not by taking input values from user. |
| PROGRAM: | <pre>data segment block1 db 'madam','\$' msg1 db 'Palindrome','\$' msg2 db 'Not Palindrome','\$' data ends extra segment block2 db 5 dup(?) extra ends Print macro msg mov ah, 09h lea dx, msg</pre> |



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```
int 21h
endm

code segment
assume cs:code, ds:data
start:
    mov ax, data
    mov ds, ax
    mov ax, es
    mov es, ax

    lea si, block1
    lea di, block2
    mov cx, 5

    cld
    rep movsb

    lea si, block1
    lea di, block2
    mov cx, 5

    cld
    repe cmpsb
    jnz NotPalindrome

    Print msg1
    jmp Done

NotPalindrome:
    Print msg2

Done:
    mov ax, 4C00h
    int 21h
code ends
end start
```



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RESULT:

```
DOSBox 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, Program: DEBUG —
C:\>link PALINDROME.obj

Microsoft (R) Segmented Executable Linker Version 5.31.009 Jul 13 1992
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Run File [PALINDROME.exe]:
List File [nul.map]:
Libraries [.lib]:
Definitions File [nul.def]:
LINK : warning L4021: no stack segment

C:\>debug PALINDROME.exe
-d 076A:0000
076A:0000 6D 61 64 61 6D 24 50 61-6C 69 6E 64 72 6F 6D 65  madam$Palindrome
076A:0010 24 4E 6F 74 20 50 61 6C-69 6E 64 72 6F 6D 65 24  $Not Palindrome$
076A:0020 00 00 00 00 00 00 00 00-00 00 00 00 00 00 00  .....
076A:0030 B8 6A 07 8E D8 8C C0 8E-C0 8D 36 00 00 8D 3E 00  .j.....6...>.
076A:0040 00 B9 05 00 FC F3 A4 8D-36 00 00 8D 3E 00 00 B9  .....6...>...
076A:0050 05 00 FC F3 A6 75 0B B4-09 8D 16 06 00 CD 21 EB  ....u.....!.
076A:0060 09 90 B4 09 8D 16 11 00-CD 21 B8 00 4C CD 21 51  ....!..L.!Q
076A:0070 B1 03 F6 F1 59 C1 E0 02-89 26 76 13 8C 16 74 13  ....Y....&v...t.
-g
Palindrome
Program terminated normally
_
```

CONCLUSION:

In this experiment, I was able to strengthen my concepts related to strings in masm, and I was able to solve problems like reverse and palindrome on strings.