

M.I.T. Practical Exam

U19CS012

1. Write a 8086 Program to Implement the strcpy function:

void strcpy(char *src, char * dest, unsigned char n)

Use src and dest strings as 16-bit addresses, and n as a 8-bit number.

If the length of src string is less than n, the remainder of the destination string will be padded with nulls.

TASM Code:

```
; 5. Write a Program to Implement strcpy Function

.model small
.stack 100
.8086

.data
; 'n' in the Question
len db 05h ; 1Fh = 31 characters (Length of String to be copied)
; Source
str1 db "MICROPROCESSOR AND INTERFACING$"
; Destination
str2 db "$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$"

.code
mov ax,@data
mov ds,ax

mov es,ax
mov ch,00h
mov cl,len ; Initialize Counter

; Initialize [SI] & [DI]
mov si,offset str1
mov di,offset str2

; Clear Direction Flag
cld

up: movsb
loop up

; Print the Answer
mov ah,09h
mov dx,offset str2
```

```
int 21h

mov ax,4c00h
int 21h
end
```

Input:

Source String: MICROPROCESSOR AND INTERFACING & n = 5

Output:

MICRO

```
-g
MICRO
Program terminated normally
-d 076C:0000
076C:0000  4C CD 21 00 05 4D 49 43-52 4F 50 52 4F 43 45 53  L.!. MICROPROCES
076C:0010  53 4F 52 20 41 4E 44 20-49 4E 54 45 52 46 41 43  SOR AND INTERFAC
076C:0020  49 4E 47 24 4D 49 43 52-4F 24 24 24 24 24 24 24  INGS MICRO$$$$$$
076C:0030  24 24 24 24 24 24 24 24-24 24 24 24 24 24 24 24  $$$$$$$$$$$$$$$$
076C:0040  24 24 24 24 24 24 24 24-24 24 24 24 24 24 24 24  $$$$
076C:0050  FF FF FF FF FF FF FF FF-FF FF FF FF FF FF FF  .....
076C:0060  FF FF FF 2C 00 FF FF FF-FF FF FF FF FF FF FF FF  .....
076C:0070  FF FF FF FF FF FF FF FF-FF FF FF FF FF FF FF FF  .....

Source String
↓
Destination String
```

USER INPUT PROGRAM:

TASM Code:

```
; 2. Write a Program to Implement strcpy Function

.model small
.stack 100
.8086

.data

;PRINT MACRO
print macro msg
mov ah,09h
mov dx,offset msg
int 21h
endm
```

```

; READ MACRO
read macro str
print msg4
mov ah,01h
int 21h
sub al,'0'
mov len1,al
mov cl,al
mov ch,00h
print msg5
print msg1
mov si,offset str
nextc: mov ah,01h
int 21h
mov [si],al
inc si
loop nextc
endm

str1 db "$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$"
msg1 db "Enter String : $"
msg4 db "Enter length : $"
msg2 db "Enter n : $"
msg5 db " $"

len1 db ?
; 'n' in the Question
len db 05h ; 1Fh = 31 characters (Length of String to be copied)
; Source
; str1 db "MICROPROCESSOR AND INTERFACING$"
; Destination
str2 db "$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$"

.code
mov ax,@data
mov ds,ax

mov es,ax
mov ch,00h

; Take String Input
read str1
print msg5

print msg2
mov ah,01h
int 21h
sub al,'0'
mov len,al

```

```

mov cl,len ; Initialize Counter

; Initialize [SI] & [DI]
mov si,offset str1
mov di,offset str2

; Clear Direction Flag
cld

up: movsb
loop up

; Print the Answer
mov ah,09h
mov dx,offset str2
int 21h

mov ax,4c00h
int 21h
end

```

Input:

Source String: MICROPRO & n = 9

Output:

MICRO

```

-g
Enter length : 9 Enter String : MICROPROC Enter n : 5MICRO

```

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