SOURCE CODE

NAME: PRIYANKA SURESH SALUNKE
CLASS: SE COMPUTER 1
PRN: F19111151

```
;Write X86/64 ALP to perform non-overlapped block transfer without string specific instructions. Block containing data can be defined in the data segment.

;write system call to display message ;in the form of print macro

%macro print 2
        mov rax,01              ;request to write
        mov rdi,01              ;on stdout = screen
        mov rsi,%1              ;Ist parameter
        mov rdx,%2              ;IInd parameter
        syscall
%endmacro


section .data


srcblk db 10h,20h,30h,40h,50h



m0 db 10,13,"Non-Overlapping BDT without String  instructions"
 l0 equ $-m0



m1 db 10,13," Source Block: ",10,13
l1 equ $-m1


m2 db 10," Destinition Block After Transfer: ",10,13
l2 equ $-m2



space db " "


newline db 0xa
```

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```
section .bss
 dstblk resb 05
count resb 01
count1 resb 01


section .text
global _start
_start:

print m0,l0                    ;display Aim of Program


print m1,l1                                ;print srcblk msg
mov rsi,srcblk      ;rsi pointing to the base address of  srcblk
call disp_block                    ;call to procedure named disp_block


mov rcx,05                                 ;load counter in counter register
mov rsi,srcblk
mov rdi,dstblk


s1:
mov al,[rsi]        ;copy element of srcblk in AL
        mov [rdi],al            ;paste it in dstblk
            inc rsi             ;increment pointer in srcblk
```

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```
        inc rdi         ;increment pointer in dstblk
        loop s1         ;rcx--;
                        ;Compare if rcx =0?; 2 Cases [Y/N]
                        ;If No then jump to the label given in the instruction [label s1]
                        ;If rcx=0 come out of the loop nd goto the next instruction following loop
                        ;instruction


print m2,l2                     ;print dstblk message


mov rsi,dstblk          ;rsi pointing to the base address  of  dstblk
call disp_block         ;call to procedure named disp_block


print newline,1


mov rax, 60
        xor rdi, rdi
        syscall

;Procedure to display block elements
disp_block:
        mov rbp,05      ;count of array elements
back:   mov al,[rsi]
        push rsi        ;push address of array element on stack
        mov bl, al
        call disp_8
```

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```
print space,1
        pop rsi
        inc rsi
        dec rbp
        jnz back
ret

disp_8:
        mov dl, bl
        and dl,0f0h
        rol dl,04
        cmp dl,09h
        jbe skip

        add dl,07h

skip:
        add dl,30h

        mov byte[count],dl      ;ASCII of higher nibble (Ist digit of n.)

        and bl,0fh
        cmp bl,09h
        jbe skip1

        add bl,07h

skip1:
```

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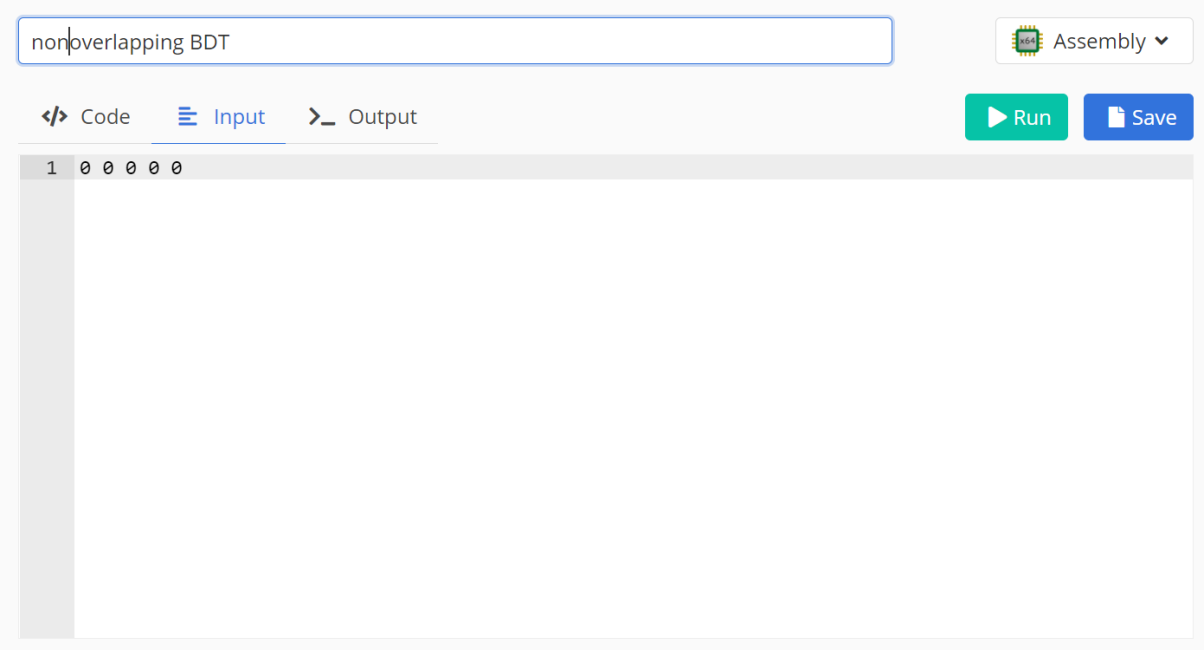
```
        add bl,30h


        mov byte[count1],bl     ;ASCII of lower nibble (IInd digit of n.)


        print count,01

        print count1,01


ret
```

INPUT:



OUTPUT:

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