

TITLE:-ALP Program Multiplication using Add and Shift method.

NAME:-

CLASS:-

BATCH:-

ROLL NO:-

section .data

welmsg db 10,'Multiplication using Add and Shift method',10

welmsg_len equ \$-welmsg

nummsg1 db 10,'Enter First two digits of Hex Number::'

nummsg1_len equ \$-nummsg1

nummsg2 db 10,'Enter Second two digits of Hex Number::'

nummsg2_len equ \$-nummsg2

resmsg db 10,'Multiplication is ::'

resmsg_len equ \$-resmsg

blankmsg db 10,',',10

blank_len equ \$-blankmsg

section .bss

numascii resb 03

multi1 resb 01

multi2 resb 01

resl resb 01

resh resb 01

dispbuff resb 04

%macro dispmsg 2

mov eax,04

mov ebx,01

mov ecx,%1

mov edx,%2

int 80h

%endmacro

%macro accept 2

mov eax,03

mov ebx,0

mov ecx,%1

mov edx,%2

int 80h

%endmacro

```

section .text
    global _start
    _start:
        dispmsg welmsg,welmsg_len
        dispmsg nummsg1,nummsg1_len
        accept numascii,3
        call packnum
        mov [multi1],bl

        dispmsg nummsg2,nummsg2_len
        accept numascii,3
        call packnum
        mov [multi2],bl
        mov al,[multi1]
        mov cl,00
        mov edx,08h

addup1:
    rcr al,01
    jnc next1
    mov bh,00h
    shl bx,cl
    add [res1],bx
    mov bl,[multi2]
next1: inc cl
        dec edx
        jnz addup1

        dispmsg resmsg,resmsg_len
        mov bx,[res1]
        call disp16_proc

        dispmsg blankmsg,blank_len
        mov eax,01 ;Exit
        mov ebx,00
        int 80h

packnum:
    mov bl,0
    mov ecx,02

```

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        mov esi,numascii
up1:
        rol bl,04
        mov al,[esi]
        cmp al,39h
        jbe skip1
        sub al,07h
skip1: sub al,30h
        add bl,al
        inc esi
        loop up1
        ret
disp16_proc:
        mov ecx,4
        mov edi,dispbuff
dup1:
        rol bx,4
        mov al,bl
        and al,0fh
        cmp al,09
        jbe dskip
        add al,07h
dskip: add al,30h
        mov [edi],al
        inc edi
        loop dup1

        dispmsg dispbuff,4
        ret

```

******* OUTPUT *******

```
admin@oomplab:~$ nasm -f elf64 -o Pract6b.o Pract6b.nasm
```

```
admin@oomplab:~$ ld -o Pract6b Pract6b.o
```

```
admin@oomplab:~$ ./Pract6b
```

```
    Multiplication using Add and Shift method
```

```
    Enter First two digits of Hex Number::05
```

```
    Enter Second two digits of Hex Number::06
```

```
    Multiplication is ::001E
```

```
admin@oomplab:~$
```