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CLASS: SE COMP 1

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SOURCE CODE:

```
%macro print 2   ;to print message on the screen
mov rax,1
mov rdi,1
mov rsi,%1
mov rdx,%2
syscall
%endmacro

%macro gtch 1              ;macro for accept from keyboard
            mov rax,0              ;standard input
            mov rdi,0              ;system for read
            mov rsi,%1             ;input the message
            mov rdx,1              ;message length
            syscall               ;interrupt for 64-bit
          %endmacro                ;close macro

%macro exitprog 0          ;macro for exit
            mov rax,60             ;system for exit
            mov rdx,0
            syscall               ;interrupt for 64-bit
          %endmacro                ;close macro

section .data

msg db "Program for Arithmetic operations.",10
msglen equ $-msg
```

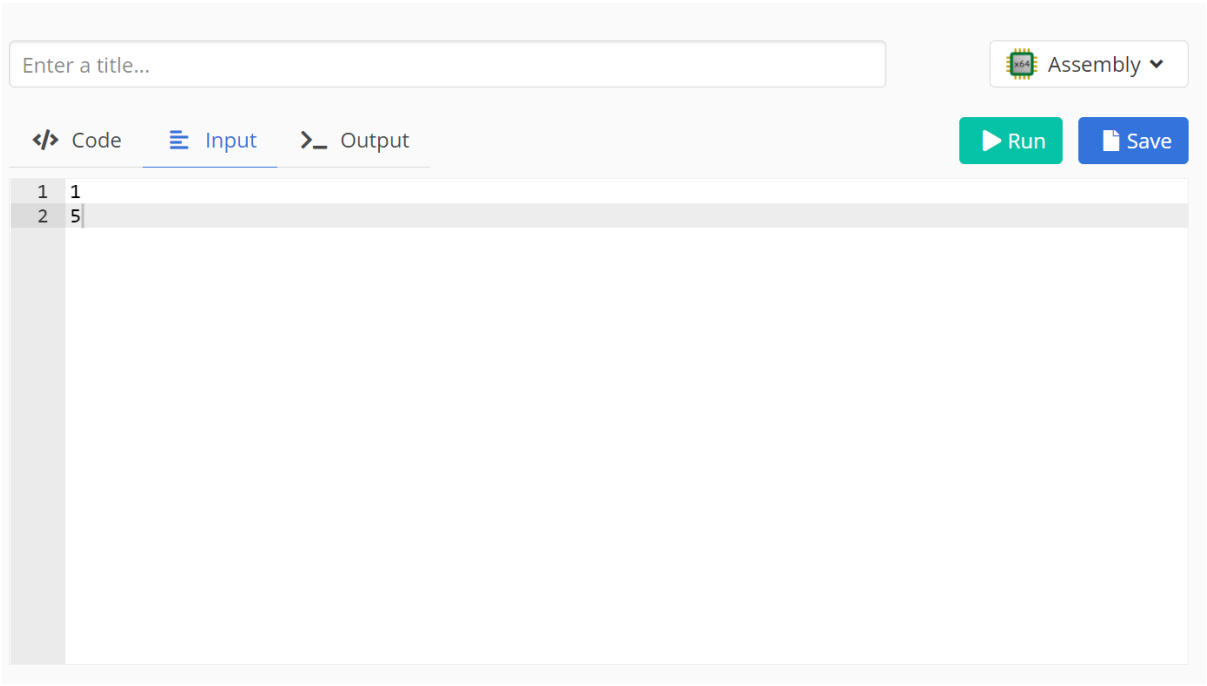
```
msg1 db "Addition is:-.",10
msglen1 equ $-msg1

msg2 db "Subtraction is:-",10
msglen2 equ $-msg2

msg3 db "Multiplication is:-",10
msglen3 equ $-msg3

msg4 db "Division is:-",10
msglen4 equ $-msg4


m1 db 10,"1. ADD",10,"2. SUB",10,"3. MUL",10,"4.DIV",10,"5.Exit",10,10, "Enter your choice (1/2/3/4/5<ENTER>): "
l1 equ $-m1

no1 db 04
no2 db 02
newline db 0xa

section .bss

dispbuff resb 2          ;to store ASCII value
input   resb 1
choice resb 1
section .txt
global _start
_start:
```

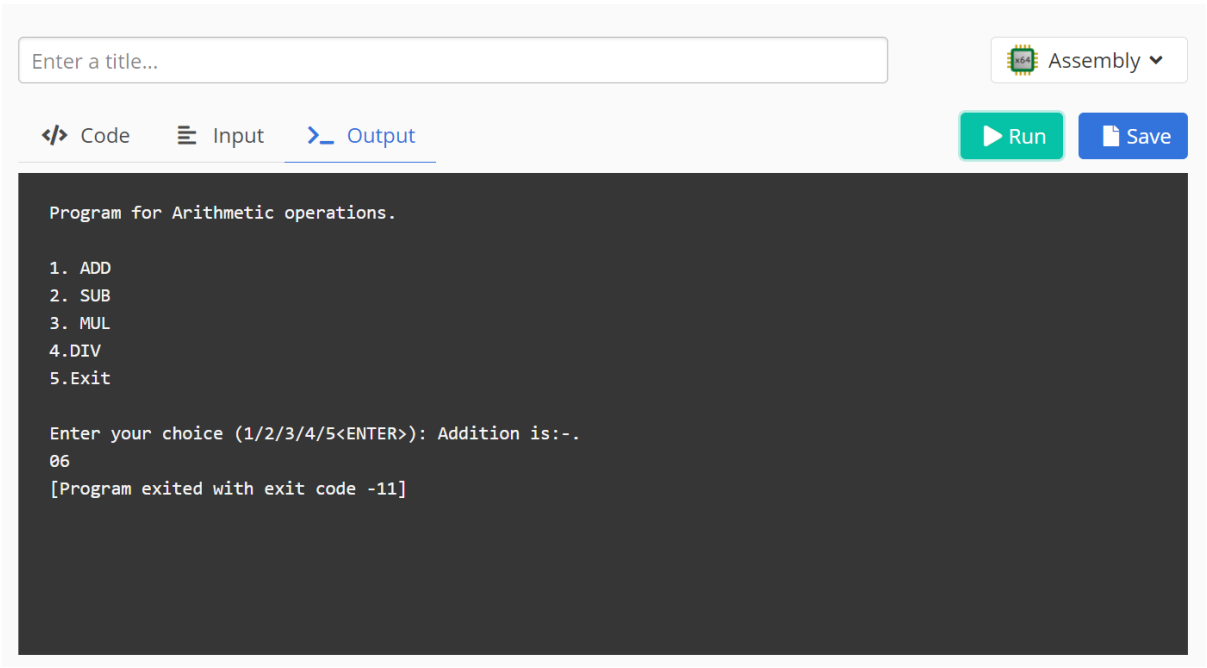
```
print msg,msglen

back:
   print m1,l1              ;Displaying the first message
         gtch input         ;To read and discard ENTER key pressed.

         mov al, byte[input]        ;Get choice
         mov byte[choice],al

         gtch input                 ;To read and discard ENTER key pressed.

         mov al, byte[choice]

         cmp al, '1'            ;compare contents of al with 1
         je add             ;if equal the jump to succ_add procedure

         cmp al, '2'            ;compare the contents of al with 2
         je sub             ;if equal the jump to shft_add procedure

   cmp al, '3'              ;compare the contents of al with 2
         je multi

         cmp al, '4'
         je div

         cmp al, '5'            ;compare the contents of al with 3
         jnz back               ;if not zero then jump to back
         exitprog

add:
mov al,[no1]
```

```
mov bl,[no2]
add  bl,al
print msg1,msglen1
call disp_result
ret

sub:
mov bl,[no1]
mov al,[no2]
sub bl,al
print msg2,msglen2
call disp_result
ret

multi:
print msg3,msglen3
mov bl,[no1]
mov al,[no2]
mul bl
mov bl,al
call disp_result
ret

div:
print msg4,msglen4
mov al,[no1]
mov bl,[no2]
div bl                  ;divided by bl
mov bl,al
call disp_result
ret
```

```
disp_result:
        mov rdi,dispbuff
        mov rcx,02
    dispup1:
        rol bl,4
        mov dl,bl
        and dl,0fh
        add dl,30h
        cmp dl,39h
        jbe dispskip1
        add dl,07h

    dispskip1:
        mov [rdi],dl
        inc rdi
        loop dispup1
        print dispbuff,2
      ret
```

OUTPUT:


Enter a title...
Assembly
Code
Input
Output
Run
Save
1
1
5


Enter a title...
Assembly
Code
Input
Output
Run
Save
Program for Arithmetic operations.
1. ADD
2. SUB
3. MUL
4.DIV
5.Exit
Enter your choice (1/2/3/4/5<ENTER>): Addition is:-.
06
[Program exited with exit code -11]

Enter a title...

Assembly

Code | Input | Output

Run | Save

```
1 2
2 5
```

Enter a title...

Assembly

Code | Input | Output

Run | Save

```
Program for Arithmetic operations.

1. ADD
2. SUB
3. MUL
4.DIV
5.Exit

Enter your choice (1/2/3/4/5<ENTER>): Subtraction is:-
02
[Program exited with exit code -11]
```

Enter a title...

Assembly

Code | Input | Output

Run | Save

```
1 3
2 5
```

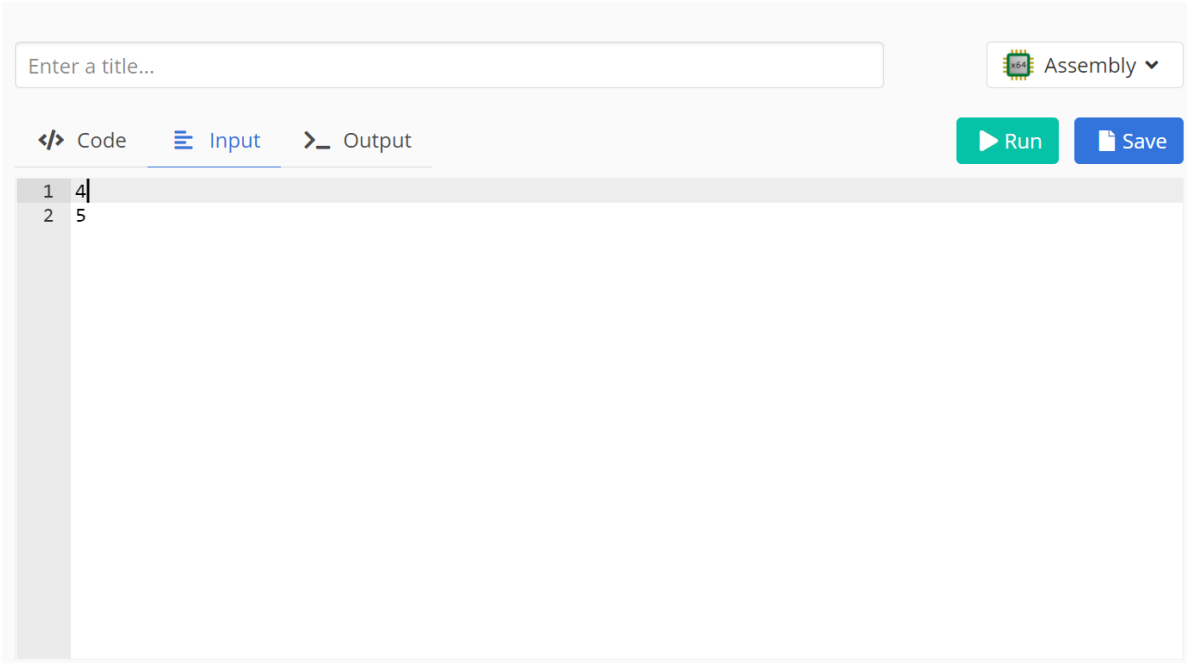
Enter a title...

Assembly

Code | Input | Output

Run | Save

```
Program for Arithmetic operations.

1. ADD
2. SUB
3. MUL
4.DIV
5.Exit

Enter your choice (1/2/3/4/5<ENTER>): Multiplication is:-
08
[Program exited with exit code -11]
```


Enter a title...
Assembly
Code
Input
Output
Run
Save
1 4
2 5


Enter a title...
Assembly
Code
Input
Output
Run
Save
Program for Arithmetic operations.
1. ADD
2. SUB
3. MUL
4.DIV
5.Exit
Enter your choice (1/2/3/4/5<ENTER>): Division is:-
02
[Program exited with exit code -11]