Name: Priyanka Suresh Salunke
Class: SE COMP 1
Roll no.: 70
PRN: F19111151

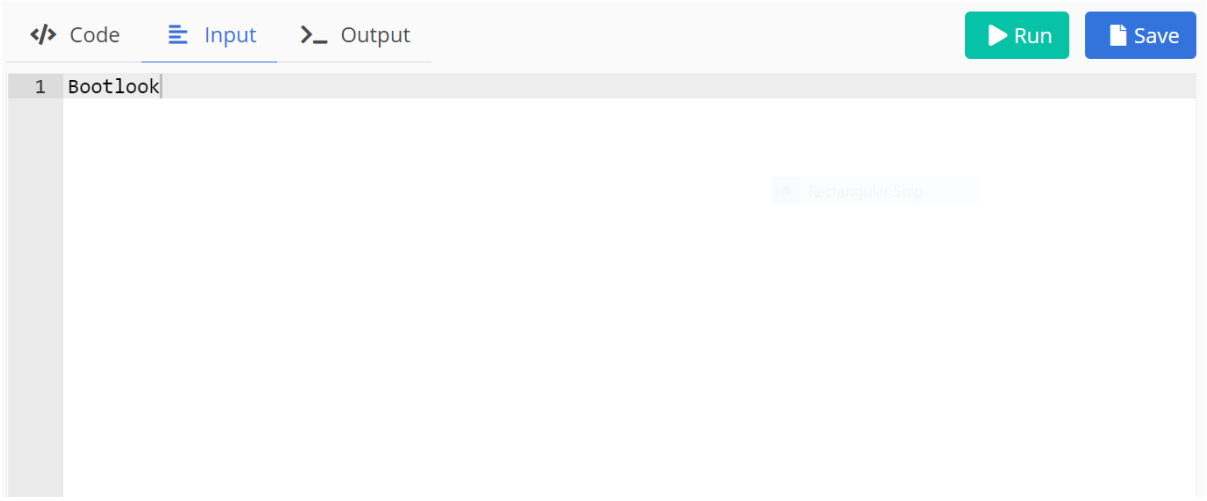
SOURCE CODE:

```
%macro print 2                  ;macro declaration with 4 parameters
mov rax,1                       ;1st parameter has been moved to rax
mov rdi,1                       ;2nd parameter has been moved to rdi
mov rsi,%1                      ;3rd parameter has been moved to rsi
mov rdx,%2                      ;4th parameter has been moved to rdx
syscall                         ;Call the Kernal
%endmacro                       ;end of macro


%macro read 2                   ;macro declaration with 4 parameters
mov rax,0                       ;read function
mov rdi,0                       ;reading from keyboard
mov rsi,%1                      ;rsi with buffer to store read data
mov rdx,%2                      ;length of data wanted to read
syscall                         ;Call the Kernal
%endmacro                       ;end of macro


section .data                   ;.data begins here
    m1 db 10,13,"Enter a string: "    ;m1 variable initialised with string
    l1 equ $-m1                 ;l1 stores length of string m1
    m2 db 10,13,"Entered String: "    ;m2 variable initialised with string
    l2 equ $-m2                 ;l2 stores length of string m2
    m3 db 10,13,"Length: "          ;m3 variable initialised with string
    l3 equ $-m3                 ;l3 stores length of string m3
```

```
section .bss                    ;.bss begins here
    buffer resb 50              ;buffer array of size 50
    size equ $-buffer           ;size variable to have input
    count resb 1                ;to store size of buffer
    dispnum resb 2              ;to display 16 digit length

section .text                   ;.text begins here
    global _start               ;moving to _start label
    _start:                     ;_start label
        print m1,l1             ;macro call to display m1
        read buffer,size        ;macro call to input buffer
        mov byte[count],al      ;length of buffer gets stored in count
        print m2,l2             ;macro call to display m2
        print buffer,[count]    ;macro call to display buffer
        call display

Exit:
        mov rax,60              ;sys_exit function
        mov rbx,0               ;Sucessful Termination
        syscall                 ;Call the Kernel


display:
        mov rdi,dispnum         ;rsi points to 16th location of dispnum
        mov bl,byte[count]      ;rax now stores value of count
        mov rcx,4               ;rcx gets initiaised with 4
        dec rbx                 ;decrement the value of rbx

 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 m3,l3          ;macro call to display m3
        print dispnum,2      ;macro call to display dispnum array
ret
```

INPUT:



OUTPUT:

```
Enter a string:
Entered String: Bootlook
Length: 07
[Program exited with exit code 1]
```