Q#1 Input a String from the User and Reverse It

```
section .data
    prompt_msg db 'Enter a string (max 50 chars): $'
    buffer db 50, 0
    new_line db 0x0D, 0x0A


section .text
    global _start


_start:
    mov ah, 0x09
    lea dx, [prompt_msg]
    int 0x21


    mov ah, 0x0A
    lea dx, [buffer]
    int 0x21


    mov si, buffer + 1
    mov cx, [buffer]      ; Get the length of the string
    add si, cx           ; Point to the end of the string
    dec si               ; Adjust to the last character

print_reverse:
    mov ah, 0x0E
    mov al, [si]
    int 0x10
    dec si
```

```
    loop print_reverse


    mov ah, 0x4C

    int 0x21
```

Q#2 Swap First Name and Last Name

```
section .data

    prompt_msg db 'Enter your first name: $'

    first_name db 50, 0

    prompt_msg2 db 'Enter your last name: $'

    last_name db 50, 0

    new_line db 0x0D, 0x0A


section .text

    global _start


_start:

    mov ah, 0x09

    lea dx, [prompt_msg]

    int 0x21


    mov ah, 0x0A

    lea dx, [first_name]

    int 0x21


    mov ah, 0x09

    lea dx, [prompt_msg2]

    int 0x21
```

```asm
    mov ah, 0x0A

    lea dx, [last_name]

    int 0x21


    mov ah, 0x09

    lea dx, [last_name + 1]

    int 0x21


    mov ah, 0x0E

    mov al, ' '

    int 0x10


    mov ah, 0x09

    lea dx, [first_name + 1]

    int 0x21


    mov ah, 0x4C

    int 0x21
```

Q#3 Compare Two Strings

```asm
section .data

    str1 db 'Hello', 0

    str2 db 'World', 0

    equal_msg db 'Strings are equal.$'

    not_equal_msg db 'Strings are not equal.$'


section .text

    global _start
```

```asm
_start:

    lea si, [str1]

    lea di, [str2]


compare:

    mov al, [si]

    cmp al, [di]

    jne not_equal

    cmp al, 0

    je equal

    inc si

    inc di

    jmp compare


equal:

    mov ah, 0x09

    lea dx, [equal_msg]

    int 0x21

    jmp exit


not_equal:

    mov ah, 0x09

    lea dx, [not_equal_msg]

    int 0x21


exit:

    mov ah, 0x4C

    int 0x21
```