

**Submitted by:** Muhammad Raffey

**Submitted to:** Sir Hassan

**Sap ID:** 70153209

**Department:** CS

**Section:** 3E

**Lab Task:** 6

# **Question:**

You are part of a college’s microprocessor lab development team, assigned to build a lightweight evaluation utility in Assembly Language for the internal assessment system. This tool is designed to help the examination department check whether students have passed or failed a subject based on their marks

# **Solution:**

.model small

.stack 100h

.data

get\_data db 'Enter Your Marks: $' ; Prompt message for marks input

spc db 10,13,'$' ; Newline and carriage return

pass\_msg db 'Pass.$' ; Message shown when passed

fail\_msg db 'Fail.$' ; Message shown when failed

.code

main proc

mov ax,@data ; Initialize Data Segment

mov ds,ax ; Set DS register to access variables

xor cx,cx ; Clear CX register (used as counter)

mov cx,3 ; Set counter to loop 3 times for input

input\_loop:

mov ah,09h

lea dx,get\_data ; Load address of prompt string

int 21h ; Display prompt

mov ah,01h

int 21h ; Get first digit from user

mov bh,al ; Store first digit (ASCII) in BH

int 21h ; Get second digit from user

mov bl,al ; Store second digit (ASCII) in BL

push bx ; Push both digits onto stack for later

mov ah,09h

lea dx,spc ; Print a newline after input

int 21h

loop input\_loop ; Repeat for 3 inputs

xor cx,cx ; Clear CX again for result loop

mov cx,3 ; Set loop counter for results

status\_loop:

pop bx ; Retrieve stored input from stack

cmp bh,35h ; Compare first digit with ASCII '5'

jl status\_fail ; If less, then it's a fail

cmp bl,30h ; Compare second digit with ASCII '0'

jge status\_pass ; If greater or equal, then it's a pass

status\_fail:

lea dx,fail\_msg ; Load fail message

mov ah,09h

int 21h ; Display "Fail"

jmp done\_status ; Jump to end of status check

status\_pass:

lea dx,pass\_msg ; Load pass message

mov ah,09h

int 21h ; Display "Pass"

done\_status:

mov ah,09h

lea dx, spc ; Extra newline spacing

int 21h

loop status\_loop ; Repeat for 3 results

mov ah,4ch ; Exit program

int 21h

main endp

end main

