1. Write a program in assembly language to take two single-digit numbers as input and

display whether they are equal or not.

Code

ORG 100h

MOV DX, OFFSET msg\_input1

MOV AH, 09h

INT 21h

MOV AH, 01h

INT 21h

SUB AL, 30h

MOV BL, AL

MOV DX, OFFSET msg\_input2

MOV AH, 09h

INT 21h

MOV AH, 01h

INT 21h

SUB AL, 30h

MOV BH, AL

CMP BL, BH

JE equal\_msg

MOV DX, OFFSET not\_equal\_msg

MOV AH, 09h

INT 21h

JMP end\_program

equal\_msg:

MOV DX, OFFSET equal\_msg\_txt

MOV AH, 09h

INT 21h

end\_program:

MOV AH, 4Ch

INT 21h

msg\_input1 DB 0Dh, 0Ah, 'Enter the first digit: $'

msg\_input2 DB 0Dh, 0Ah, 'Enter the second digit: $'

equal\_msg\_txt DB 0Dh, 0Ah, 'The numbers are equal.$'

not\_equal\_msg DB 0Dh, 0Ah, 'The numbers are not equal.$'

END

Output:

A screenshot of a computer

Description automatically generated

Practice set:

2. Write a program in assembly language to check whether a single-digit number is odd or even.

Code

ORG 100h

MOV DX, OFFSET msg\_input1

MOV AH, 09h

INT 21h

MOV AH, 01h

INT 21h

SUB AL, 30h

MOV BL, AL

MOV AL, BL

AND AL, 01h

JZ first\_even

MOV DX, OFFSET odd\_msg1

JMP display\_first

first\_even:

MOV DX, OFFSET even\_msg1

display\_first:

MOV AH, 09h

INT 21h

end\_program:

MOV AH, 4Ch

INT 21h

msg\_input1 DB 0Dh, 0Ah, 'Enter the single digit number: $'

odd\_msg1 DB 0Dh, 0Ah, 'The single digit number is odd.$'

even\_msg1 DB 0Dh, 0Ah, 'The single digit number is even.$'

END

Output:

