```
.MODEL SMALL
.STACK 100H
.DATA
    MSGA DB 'Enter the Number to find Factorial(Max 5 Digit): $'
    MSGB DB 'Factorial of this Number is: $'
    TEMP DW ?
    COUNT DW ?

.CODE
MAIN PROC
    MOV AX, @DATA
    MOV DS, AX

    LEA DX, MSGA            ;Print 'Enter the Number to find Factorial(Max 5 Digit)'
    MOV AH,9
    INT 21H

GET_INPUT:
    MOV AH,1
    MOV BX,0
    INT 21H

    CMP AL,0DH
    JE END_INPUT            ;If Enter

    INER_LOOP_1:
        MOV AH,0            ;Use full 16 bits of AX
        SUB AX,48

        MOV TEMP,AX
        MOV AX,10
        MUL BX              ;AX = AX*BX
        MOV BX,AX
        ADD BX,TEMP

    MOV AH,1                ;Input new digit
    INT 21H
    CMP AL,0DH
    JNE INER_LOOP_1         ;If Enter

    END_INPUT:
        MOV COUNT,BX
        MOV CX,COUNT
        INC COUNT

    LEA DX, MSGB            ;Print 'Factorial of this Number is: '
    MOV AH,9
    INT 21H

    CMP CX,0
    JNE GET_FACTORIAL

    MOV BX,1
    JMP PRINT_START

GET_FACTORIAL:
    MOV AX,1
    MOV BX,1

    DO_MUL:
        MUL BX              ;Multiply the number from 1 to Number
        INC BX
        CMP BX,COUNT
        JNE DO_MUL

    MOV BX,AX               ;Assign the result in BX
```

```
PRINT_START:
    MOV CX,0                ;Or XOR CX,CX
    MOV AX,BX
    MOV BX,10

STOR_FACTORIAL:
    MOV DX,0
    DIV BX                  ;AX = AX/BX
    PUSH DX                 ;Reminder(DX) in stack
    INC CX
    CMP AX,0
    JNE STOR_FACTORIAL

PRINT_FACTORIAL:
    MOV AH,2
    POP DX
    ADD DL,48               ;Pop stack by DX and DX = DL
    INT 21H

    DEC CX
    CMP CX,0
    JNZ PRINT_FACTORIAL

    MOV AH,4CH
    INT 21H

MAIN ENDP
    END MAIN
```