③ . model small
. data
msg 1 db, 0dh, 0ah, "Enter alpha numeric chara
... चर $"
res db 02 dup(0)
. code
mov ax, @data
mov ds, ax
lea dx, msg1
call disp
mov ah, 01b
int 21h
mov bl, al
mov cl, 4
shr al, cl
cmp al, 0ab
jc digit
add al, 07H
digit: add al, 30H
mov res, al
and bl, 0fb
cmp bl, 0ab
jc digit1
d   add bl, 07b
digit1: add bl, 30b
mov res+1, bl

```asm
        mov   ah, 00h
        mov   al, 03h        ; text mode
        int   10h


        mov   ah, 02h        ; set  cursor pos
        mov   bh, 00h        ; page number
        mov   dh, 0ch        ; Row (00 is top
        mov   dl, 28h        ; column val.
        int   10h


        mov   rest 2, '$'
        lea   dx, res
        call  disp
        mov   ah, 4ch
        int   21h


        disp  proc  near
        mov   ah, 09h
        int   21h
        ret
        disp  endp
        end
```
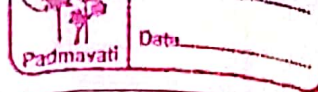
34

```
C:\MASM>EDIT

C:\MASM>_
```

Pallindrome

```
        .model small
(4) display macro msg
        lea  DX, msg
        mov AH, 09H
        Int 21H

        ENDM
        .Data
msg1 DB  0DH, 0AH, "enter string: $"
msg2 DB  0DH, 0AH, "Reverse string : $"
mg3  DB  0DH, 0AH, "Input string is pallindrome.$"
msg4 DB  0DH, 0AH, "not a pallindrome. $"
String DB 80H DUP(?)
rest rstring DB 80H  DUP (?)
        . code
start: mov ax, @data
       mov ds, ax
       Display msg1
       mov SI, offset string
       XOR  cl, cl
Again : mov AH, 01H
        Int  21H
        Cmp  Al, 0DH    ; ASCi value of enter key is =0DH
                        BmsCe
        JE   NEXT
        mov [SI], Al
        INC  SI
        INC  cl
        jmp  again
Next : mov [SI], Byte PTR $
       DEC SI
       mov CH, cl     ; reverse the string & store h
                             natrrng.
```

```
            mov  DI,  offset Rstring
Back:  mov  Al,  [SI]
           mov  [DI],  A l
           DEC    SI
           INC    DI
           DEC    CH
           JNZ    Back
           mov  [DI],  byte ptr  $
           display  msg2
           Display  restring
           mov  SI,  offset  string
           mov  DI,  offset  Rstring
AG:   mov  Al, [SI]
          cmp  Al,  [DI]
          JNE   fail
          INC   SI
          INC    DI
          DEC    CX
       JZ   success
       JmP   AG
FAIL:  Display  msg4
          Jmp  final
SUCCER :  Display  msg3 .
FINal   :   mov  AH, 4ch
                 int  21h
        end

→  Input :  madam
→  output :  Input  string  is  a  pallindrome
```

```
                   0 Severe  Errors
:0 C:\MASM>link pal;;

   Microsoft (R) Overlay Linker  Version 3.60
   Copyright (C) Microsoft Corp 1983-1987.  All rights reserved.

   LINK : warning L4021: no stack segment

C:\MASM>pal

enter string:madam

reverse string:madam
input string is a pallindrome
C:\MASM>shweta
Illegal command: shweta.

C:\MASM>pal

enter string:shweta

reverse string:atewhs
not a pallindrome
C:\MASM>_
```