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IT-A1-025

```asm
.model small
.stack 100h
.data
    arr db 20 DUP('$')
    msg db 'Enter a string : $'
    msgvow db 'No. of vowels : $'
    msgcon db 'No. of consonents :$'
    msgdig db 'No. of digits :$'
    len dw 0
    vow dw 0
    dig dw 0
.code
main proc
    mov ax,@data
    mov ds,ax
    mov dx,offset msg
    mov ah,9
    int 21h
    mov si, offset arr

    lp:
    mov ah,1
    int 21h
    cmp al,13
    je progend

    mov [si], al
    cmp al,"a"
    je vowel_found
```

```asm
        cmp al,"e"
        je vowel_found
        cmp al,"i"
        je vowel_found
        cmp al,"o"
        je vowel_found
        cmp al,"u"
        je vowel_found
        cmp al,"A"
        je vowel_found
        cmp al,"E"
        je vowel_found
        cmp al,"I"
        je vowel_found
        cmp al,"O"
        je vowel_found
        cmp al,"U"
        je vowel_found
        inc si
        jmp lp

vowel_found:
mov cx,vow
inc cx
mov vow,cx
inc si
jmp lp

progend :
mov dx, offset msgvow
mov ah,9
int 21h
mov dx,vow
```

```asm
add dx,48
mov ah,2
int 21h

mov cx,0
mov si,offset arr

lpp:
mov al,[si]
cmp al,"$"
je proggend
cmp al,"0"
je dig_found
cmp al,"1"
je dig_found
cmp al,"2"
je dig_found
cmp al,"3"
je dig_found
cmp al,"4"
je dig_found
cmp al,"5"
je dig_found
cmp al,"6"
je dig_found
cmp al,"7"
je dig_found
cmp al,"8"
je dig_found
cmp al,"9"
je dig_found
inc si
jmp lpp
```

```asm
dig_found:
mov cx,dig
inc cx
mov dig,cx
inc si
jmp lpp

proggend:
mov dx, offset msgdig
mov ah,9
int 21h
mov dx,dig
add dx,48
mov ah,2
int 21h

mov cx,0
mov si,offset arr

lppp:
mov al,[si]
cmp al,"$"
je programend
inc si
inc cx
jmp lppp

programend:
mov dx, offset msgcon
mov ah,9
int 21h
mov dx,cx
```

```
        add dx,48
        sub dx,vow
        sub dx,dig
        mov ah,2
        int 21h
        mov ah,4ch
        int 21h


main endp
end main
```

Output:

```
Z:\>mount d ./code
Drive D is mounted as local directory ./code/

Z:\>d:

D:\>set PATH=C:\TASM

D:\>TASM D:\test.asm
Turbo Assembler  Version 4.1  Copyright (c) 1988, 1996 Borland International

Assembling file:    D:\test.asm  to  test.OBJ
Error messages:     None
Warning messages:   None
Passes:             1
Remaining memory:   465k


D:\>TLINK D:\test
Turbo Link  Version 7.1.30.1. Copyright (c) 1987, 1996 Borland International

D:\>D:\test
Enter a string : MaN2sU3p
No. of vowels : 2No. of digits :2No. of consonents :4
D:\>_
```