1) Please download the file marks.txt along with this question.
The file has five columns organised as idno. m1 m2 total grade
e.g. 230 21 22 43 U
Currently all grades against the 10 id nos. in the file are equal to U(Unassigned)
Your ALP has to do the following
(a) Display “enter cut offs as ALOW BLOWBHIGH CLOWCHIGH DLOWDHIGH : “
(b) On the next line the user enters the cutoffs in the format (e.g. 70 6069 5059 4049)
(c) This means A is 70 and above. B is 60 -69, C is 50-59, D is 40-49 and E is below 40
(d) Based on the totals in column four and user input grades in column 5 should be updated in the file
For e.g. 230 21 22 43 U becomes 230 21 22 43 D in the file.

```
.model  tiny
.486
.data
fname   db      'marks.txt',0
dis1    db      'enter cut offs as ALOW BLOWBHIGH CLOWCHIGH DLOWDHIGH :', 0Ah,0dh, '$'
kcnt    db      24
acnt    db      ?
inp     db      24 dup(0)
dat1    db      10 dup(0)
dat2    dw      0
dat3    db      ?
datb    db      ?
grad    db      'E'
alow    db      ?
blow    db      ?
bhigh   db      ?
clow    db      ?
chigh   db      ?
dlow    db      ?
dhigh   db      ?
cnt     db      10
.code
.startup
        lea     dx,dis1
        mov     ah,09h
        int     21h
        lea     dx,kcnt
        mov     ah,0ah
        int     21h
        lea     si,inp
        lodsw
        and     ax,0f0fh
        ror     al,04
        or      al,ah
xn:     mov     ah,3fh
        mov     cx,13
        lea     dx,dat1
```

```
      int    21h
      mov    ax,dat2
      and    ax,0f0fh
      rol    al,4
      or     al,ah
      cmp    al,dlow
      ja     x1
      jmp    x5
x1:   dec    grad
      cmp    al,clow
      ja     x2
      jmp    x5
x2:   dec    grad
      cmp    al,blow
      ja     x3
      jmp    x5
x3:   dec    grad
      cmp    al,alow
      ja     x4
      jmp    x5
x4:   dec    grad
x5:   mov    ah,40h
      mov    cx,1
      lea    dx,grad
      int    21h
      mov    ah,42h
      mov    cx,0
      mov    dx,2
      mov    al,01
      int    21h
      mov    al,'E'
      mov    grad,al
      dec    cnt
      jnz    xn
.exit
End
```

2)Please download the file marks.txt along with this question.
The file has four columns organised as idno. m1 m2 total
e.g. 230 21 22 00
Currently all totals against the 10 id nos. in the file are equal to zero.
Your ALP has to do the following
(a) Take marks m1 & m2 from the file for each id no add them and store in the total column.
for e.g. if file entry was 230 21 22 00
it has to become 230 21 22 43
(b) The process is to be done for all 10 id nos. in the file.
(c) You can assume total of marks will not exceed 99.

```
.model  tiny
.486
.data
fname   db     'marks.txt',0
dat1    db     ?
dat2    db     ?
dats    db     ?
dat3    db     ?
dat4    db     ?
dat5    db     ?
dat6    db     ?
dat7    db     10
dat8    dw     ?
.code
.startup
      lea     dx,fname
      mov     ah,3dh
      mov     al,02h
      int     21h
      mov     bx,ax
x1:    mov     ah,42h
      mov     al,01
      mov     dx,4
      mov     cx,0
      int     21h
      mov     ah,3fh
      mov     cx,6
      lea     dx,dat1
      int     21h
      mov     al,dat1
      mov     ah,dat2
      and     ax,0f0fh
      rol     al,4
      or      al,ah
      mov     dat5,al
      mov     al,dat3
      mov     ah,dat4
      and     ax,0f0fh
      rol     al,4
      or      al,ah
      mov     dat6,al
      add     al,dat5
      daa
      mov     ah,al
      rol     al,04
      and     ax,0f0fh
      or      ax,3030h
      mov     dat8,ax
```

```
    mov    ah,40h
    mov    cx,2
    lea    dx,dat8
    int    21h
    mov    ah,42h
    mov    dx,2
    mov    cx,0
    mov    al,01
    int    21h
    dec    dat7
    jnz    x1
.exit
end
```

3) Please download the file marks.txt along with this question.
The file has three columns organised as idno. m1 m2
e.g. 230 00 00
Currently all marks against the 10 id nos. in the file are equal to zero.
Your ALP has to do the following
(a) Display “Enter marks in format m1 m2 when id no. is displayed on screen”
(b) On the next line the first id no in the file e.g. 230 followed by space should be displayed on the screen
(c) User is allowed to enter marks for m1 and m2 in same line as 230 45 10 (Note: The entry by the user is only 45 10) The number of characters user is allowed to enter should be restricted.
(d) These marks must be stored in the file against 230 as 230 45 53
(e) The next id no is displayed on the next line in the screen for e.g. 232 followed by space
(f) User enters marks as 232 41 31
(g) This must be updated in the file
(h) The process is to be done for all 10 id nos. in the file.

```
.model  tiny
.data
fname   db     'marks.txt',0
dis1    db     "Enter marks in format m1 m2 when id no. is displayed on screen",'$'
dis2    db     0Ah,0dh
dis3    db     5 dup('$')
kcnt    db     6
acnt    db     ?
dat1    db     6 dup(0)
cnt     db     10
.code
.startup
    lea    dx,dis1
    mov    ah,09h
    int    21h
    mov    ah,3dh
```

```
      mov    al,02
      lea    dx,fname
      int    21h
      mov    bx,ax
x1:   mov    ah,3fh
      mov    cx,4
      lea    dx,dis3
      int    21h
      lea    dx,dis2
      mov    ah,09h
      int    21h
      lea    dx,kcnt
      mov    ah,0ah
      int    21h
      mov    cx,5
      lea    dx,dat1
      mov    ah,40h
      int    21h
      mov    ah,42h
      mov    dx,2
      mov    cx,0
      mov    al,01
      int    21h
      dec    cnt
      jnz    x1
.exit
end
```

4) Write an ALP that will do the following:

Take in user command in the following format : ren *'fil1.txt' 'fil2txt'*

The program should verify the name of the command 'ren' if the command is not ren then an error message 'command unknown' must be displayed on the next line.

If the command is correct *'fil1.txt'* should be renamed as *'fil2.txt'.*

For e.g. user input can be ren mpi.txt abc.txt

mpi.txt should be renamed to abc.txt. If the file mpi.txt is not available in the current directory. 'file not found' should be displayed on the next line.

If there is already a file of name abc.txt – 'Access denied- File of same name may be present' should be displayed on the next line.

Any other error in renaming 'unknown error' should be displayed on the next line.

```
.model tiny
.data
dat1   db     20
dat2   db     ?
dat3   db     4 dup(0)
dat4   db     7 dup(0)
dat5   db     ?
dat6   db     8 dup(0)
```

```
fil1    db      8 dup(0)
fil2    db      8 dup(0)
com1    db      'ren'
dis1    db      0dh, 0ah,'file not found $'
dis2    db      0dh, 0ah,'error $'
dis3    db      0dh, 0ah,'command unknown $'
dis4    db      0dh, 0ah,'Access denied, File by same name may be present $'
.code
.startup
      mov     ah,0ah
      lea     dx,dat1
      int     21h
      lea     dx,dis3
      lea     si,dat3
      lea     di,com1
      mov     cx,3
x1:    cmpsb
      jne     x2
      loop    x1
      lea     si,dat4
      lea     di,fil1
      mov     cx,7
  rep  movsb
      lea     si,dat6
      lea     di,fil2
      mov     cx,7
  rep  movsb
      lea     dx,fil1
      lea     di,fil2
      mov     ah,56h
      int     21h
      jnc     last1
      lea     dx,dis1
      cmp     al,02h
      jz      x2
      lea     dx,dis4
      cmp     al,05h
      jz      x2
      lea     dx,dis2
x2:    mov     ah,09h
      int     21h
last1:
.exit
end
```

5) Please download the file marks.txt along with this question.
The file columns organised as: idno. m1 m2 total Grade
e.g. 230 21 22 43 C
There totally 10 such entries in the file.
Your ALP has to do the following
(a) Calculate MGPA – formula for MGPA is :

$$\frac{\text{No.of A's *(10) + No. of B's * (8) + No. of C's *(6) + No.of D's * (4) + No.of E's * 2}}{\text{No. of students}}$$

(b) Display the MGPA in the format "MGPA is *value* "
(c) You only need to display quotient – remainder need not be considered.
(d) You can assume MGPA will not exceed 9.

```
.model  tiny
.486
.data
fil1    db      'marks.txt',0
cnta    db      0
cntb    db      0
cntc    db      0
cntd    db      0
cnte    db      0
mgpa    dw      0
dis2    db      0ah,0dh,"MGPA IS "
dis3    db      30h,'$'
dat1    db      200 dup(0)
.code
.startup
;reading file
        lea     dx,fil1
        mov     ah,3dh
        mov     al,02h
        int     21h
        mov     bx,ax
        lea     dx,dat1
        mov     ah,3fh
        mov     cx,200
        int     21h
;count grades
        lea     si,dat1
        mov     cx,10
x5:     mov     al,[si+13]
        cmp     al,'A'
        jne     x1
        inc     cnta
        jmp     x6
x1:     cmp     al,'B'
```

```
        jne     x2
        inc     cntb
        jmp     x6
x2:     cmp     al,'C'
        jne     x3
        inc     cntc
        jmp     x6
x3:     cmp     al, 'D'
        jne     x4
        inc     cntd
        jmp     x6
x4:     inc     cnte
x6:     add     si,16
        loop    x5
;mgpa calc
        mov     al,0ah
        mul     cnta
        add     mgpa,ax
        mov     al,08
        mul     cntb
        add     mgpa,ax
        mov     al,06
        mul     cntc
        add     mgpa,ax
        mov     al,04h
        mul     cntd
        add     mgpa,ax
        mov     al,02h
        mul     cnte
        add     mgpa,ax
        mov     cl,10
        mov     ax,mgpa
        div     cl
;mgpa display
        or      dis3,al
        lea     dx,dis2
        mov     ah,09h
        int     21h
.exit
end
```