**Q.1.**

dosseg

.model small

.stack 100h

.data

str1 db 10,13,'Enter a number $'

unit db ?

tens db ?

sum dw ?

.code

main proc

mov ax,@data

mov ds,ax

mov cx,5

input:

mov dx,offset str1

mov ah,09h

int 21h

mov ah,1

int 21h

sub al,30h

mov tens,al

mov ah,1

int 21h

sub al,30h

mov unit,al

mov al,10

mov bl,tens

mul bl

add al,unit

; mov bl, 0

; mov bl, tens

; add al,bl

mov ah,0

;mov bh,0

;mov bl,tens

;add ax,bx

add sum,ax

loop input

mov ax,sum

AAM

mov ch,ah

mov cl,al

; add ch,30h

; add cl,30h

mov dl,ch

add dl,30h

;add dl,48

mov ah,02h

int 21h

mov dl,cl

add dl,30h

;add dl,48

mov ah,02h

int 21h

; add dl,30h

; mov ah,2

; int 21h

; mov dl,unit

; add dl,30h

; mov ah,2

; int 21h

; mov bl,10

; div bl

; mov tens,al

; mov unit,ah

; mov dl,tens

; add dl,30h

; mov ah,2

; int 21h

; mov dl,unit

; add dl,30h

; mov ah,2

; int 21h

mov ah,4ch

int 21h

main endp

end main

**Q.2.**

dosseg

.model small

.stack 100h

.data

str1 db 10,13,'Enter a number in the range 0-20 $'

str2 db 10,13,'Total Marks out of 100 for 5 subjects are $'

str3 db 10,13,'The percentage marks out of 100 are $'

unit db ?

tens db ?

sum dw ?

percentage dw ?

q db ?

r db ?

.code

print proc

AAM

mov ch,ah

mov cl,al

mov dl,ch

add dl,30h

mov ah,02h

int 21h

mov dl,cl

add dl,30h

mov ah,02h

int 21h

ret

print endp

main proc

mov ax,@data

mov ds,ax

mov cx,5

input:

mov dx,offset str1

mov ah,09h

int 21h

mov ah,1

int 21h

sub al,30h

mov tens,al

mov ah,1

int 21h

sub al,30h

mov unit,al

mov al,10

mov bl,tens

mul bl

add al,unit

; mov bl, 0

; mov bl, tens

; add al,bl

mov ah,0

;mov bh,0

;mov bl,tens

;add ax,bx

add sum,ax

loop input

MOV dl, 10

MOV ah, 02h

INT 21h

MOV dl, 13

MOV ah, 02h

INT 21h

mov dx,offset str2

mov ah,09h

int 21h

mov ax,sum

call print

mov dx,offset str3

mov ah,09h

int 21h

mov ax,sum

mov bx,99

div bx ; ax=ax/bx

mov q,al

mov r,ah

mov bx,99

mul bx

call print

mov ah,4ch

int 21h

main endp

end main

**Q.3.**

dosseg

.model small

.stack 100h

.data

str1 db 10,13,'Enter a multi-digit number $'

str2 db 10,13,' The sum of the inputted natural numbers is: $'

unit db ?

tens db ?

sum dw ?

num dw ?

q db ?

r db ?

.code

print proc

AAM

mov ch,ah

mov cl,al

mov dl,ch

add dl,30h

mov ah,02h

int 21h

mov dl,cl

add dl,30h

mov ah,02h

int 21h

ret

print endp

main proc

mov ax,@data

mov ds,ax

mov dx,offset str1

mov ah,09h

int 21h

mov ah,1

int 21h

sub al,30h

mov tens,al

mov ah,1

int 21h

sub al,30h

mov unit,al

mov al,10

mov bl,tens

mul bl

add al,unit

mov ah,0

mov num,ax

add ax,1

mov bx,num

mul bx

mov bl,2

div bl

mov q,al

mov r,ah

mov sum,ax

MOV dl, 10

MOV ah, 02h

INT 21h

MOV dl, 13

MOV ah, 02h

INT 21h

mov ax,sum

mov dx,offset str2

mov ah,09h

int 21h

call print

mov ah,4ch

int 21h

main endp

end main

**Q.4.**

**Q.5.**

dosseg

.model small

.stack 100h

.data

.code

main proc

mov bx,1

mov cx,10

L1:

push cx

mov ah,2

mov dl,32 ; 32 is ascii for spaces , first loop is printing spaces

;int 21h

L2:

int 21h

loop L2

mov cx,bx

mov dl,'\*'

L3:

int 21h

loop L3

mov ah,2

mov dl,10

int 21h

mov dl,13

int 21h

inc bx ; toggle theese to cahnge shape from pyramid to traingle

inc bx ; toggle theese to cahnge shape from pyramid to traingle

pop cx

loop L1

exit:

mov ah,4ch

int 21h

main endp

end main