**TASK 1a**

.model small

.stack 100H

.data

var db (0)

.code

mov ax,@data

mov ds,ax

mov ax,0

mov ah,00h

mov al,13h

int 10h

mov cx,100

mov dx,100

mov var,0

l1:

cmp var,80

je exit

mov ah,0ch

mov al,14

int 10h

add var,1

add cx,1

jmp l1

exit:

mov cx,100

mov dx,100

mov var,0

l2:

cmp var,80

je ex

mov ah,0ch

mov al,14

int 10h

add var,1

add dx,1

jmp l2

ex:

mov cx,100

mov dx,179

mov var,0

l3:

cmp var,80

je exi

mov ah,0ch

mov al,14

int 10h

add var,1

add cx,1

jmp l3

exi:

mov cx,179

mov dx,100

mov var,0

l4:

cmp var,80

je e

mov ah,0ch

mov al,14

int 10h

add var,1

add dx,1

jmp l4

e:

mov ah, 4ch

int 21H

end

**TASK 1b**

.model small

.stack 0100h

.data

.code

mov ah, 0

mov al, 13h

int 10h

MOV CX, 15

MOV DX, 100

L1:

MOV AL, 14

MOV AH, 0CH

INT 10H

INC CX

CMP CX,30

JNE L1

L2:

MOV AL, 14

MOV AH, 0CH

INT 10H

INC DX

CMP DX,130

JNE L2

L3:

MOV AL, 14

MOV AH, 0CH

INT 10H

DEC CX

CMP CX,15

JNE L3

L4:

MOV AL, 14

MOV AH, 0CH

INT 10H

DEC DX

CMP DX,100

JNE L4

mov ah, 4ch

int 21h

end

**TASK 1c**

.model small

.stack 100h

.data

.code

mov ax,@data

mov ds,ax

mov ax,0

mov ah, 0

mov al, 13h

int 10h

MOV CX, 60

MOV DX, 100

L1:

MOV AL, 14

MOV AH, 0CH

INT 10H

DEC CX

CMP CX,0

JNE L1

L2:

MOV AL, 14

MOV AH, 0CH

INT 10H

INC CX

DEC DX

CMP CX,60

JNE L2

;CX=60

;DX=40

L3:

MOV AL, 14

MOV AH, 0CH

INT 10H

INC CX

INC DX

CMP CX,120

JNE L3

L4:

MOV AL, 14

MOV AH, 0CH

INT 10H

DEC CX

CMP CX,60

JNE L4

mov ah,4ch

int 21h

end

**TASK 1d**

.model small

.stack 100h

.data

.code

mov ah, 0

mov al, 13h

int 10h

mov cx,200

mov dx,200

mov bx,40

pe1:

mov ah,0Ch

mov al,3

int 10h

dec bx

inc cx

inc dx

cmp bx,0

jne pe1

mov bx,40

pe2:

mov ah,0Ch

mov al,3

int 10h

dec bx

inc dx

cmp bx,0

jne pe2

mov bx,80

pe3:

mov ah,0Ch

mov al,3

int 10h

dec bx

dec cx

cmp bx,0

jne pe3

mov bx,40

pe4:

mov ah,0Ch

mov al,3

int 10h

dec bx

dec dx

cmp bx,0

jne pe4

mov bx,40

pe5:

mov ah,0Ch

mov al,3

int 10h

dec bx

inc cx

dec dx

cmp bx,0

jne pe5

mov ah,4ch

int 21h

end

**TASK 1e**

.model small

.stack 100h

.data

.code

mov ah, 0

mov al, 13h

int 10h

mov cx,300

mov dx,200

mov bx,40

he1:

mov ah,0Ch

mov al,3

int 10h

dec bx

inc cx

cmp bx,0

jne he1

mov bx,40

he2:

mov ah,0Ch

mov al,3

int 10h

dec bx

inc cx

inc dx

cmp bx,0

jne he2

mov bx,40

he3:

mov ah,0Ch

mov al,3

int 10h

dec bx

dec cx

inc dx

cmp bx,0

jne he3

mov bx,40

he4:

mov ah,0Ch

mov al,3

int 10h

dec bx

dec cx

;inc dx

cmp bx,0

jne he4

mov bx,40

he5:

mov ah,0Ch

mov al,3

int 10h

dec bx

dec cx

dec dx

cmp bx,0

jne he5

mov bx,40

he6:

mov ah,0Ch

mov al,3

int 10h

dec bx

inc cx

dec dx

cmp bx,0

jne he6

mov ah,4ch

int 21h

end

**TASK 2**

.model small

.stack 100h

.data

.code

mov ah, 0

mov al, 13h

int 10h

MOV DX, 100

L1:

MOV CX, 140

L2:

MOV AL, 14

MOV AH, 0CH

INT 10H

INC CX

CMP CX,200

JNE L2

INC DX

CMP DX,150

JNE L1

mov ah,4ch

int 21h

end

**TASK 3**

.model small

.stack 100H

.data

var dw (0)

string db "HAMZA$"

.code

mov ax,@data

mov ds,ax

mov ax,0

mov ah,00h

mov al,13h

int 10h

mov cx,0

mov dx,199

mov var,0

l1:

cmp var,319

je exit

mov ah,0ch

mov al,14

int 10h

add var,1

add cx,1

jmp l1

exit:

mov cx,0

mov dx,0

mov var,0

l2:

cmp var,199

je ex

mov ah,0ch

mov al,14

int 10h

add var,1

add dx,1

jmp l2

ex:

mov cx,0

mov dx,0

mov var,0

l3:

cmp var,319

je exi

mov ah,0ch

mov al,14

int 10h

add var,1

add cx,1

jmp l3

exi:

mov cx,319

mov dx,0

mov var,0

l4:

cmp var,199

je e

mov ah,0ch

mov al,14

int 10h

add var,1

add dx,1

jmp l4

e:

mov ah,13h

mov al,13h

mov bl,0bh

mov cx,5

mov dh,70

mov dl,120

mov si,offset string

int 10h

mov ah, 4ch

int 21H

end