**Assignment 3**

**Coal Lab**

**Q1:**

**A)**

.model small

.stack 100h

.data

Val1 dd ?

X dd ?

.code

Main proc

mov ax,@data

mov ds,ax

mov ebx,7

mov ecx,4

cmp ebx,ecx

jle L1

mov X,1

L1:

mov ah,4ch

int 21h

ret

Main Endp

**B)**

.model small

.stack 100h

.data

Val1 dd ?

X dd ?

.code

Main proc

mov ax,@data

mov ds,ax

mov edx,7

mov ecx,7

cmp edx,ecx

je Label1

mov X,2

Label1:

mov X,1

mov ah,4ch

int 21h

ret

Main Endp

**C)**

.model small

.stack 100h

.data

Val1 dd ?

X dd ?

.code

Main proc

mov ax,@data

mov ds,ax

mov Val1,8

mov edx,5

mov ecx,2

cmp Val1,ecx

jle Label

cmp ecx,edx

jle Label

mov X,1

Label:

mov X,2

mov ah,4ch

int 21h

ret

Main Endp

**D)**

.model small

.stack 100h

.data

Val1 dd ?

X dd ?

.code

Main proc

mov ax,@data

mov ds,ax

mov Val1,8

mov ebx,9

mov ecx,2

cmp ebx,ecx

jg next

cmp ebx,Val1

jle label

Label:

mov X,2

next:

mov X,1

mov ah,4ch

int 21h

ret

Main Endp

**Q2:**

**Q3:**

.model small

.stack 100h

.data

.code

Main proc

mov ax,@data

mov ds,ax

mov cx,5

jump1:

mov bx,cx

jump2:

mov dl,"\*"

mov ah,02

int 21h

loop jump2

mov dl,0Ah

mov ah,02

int 21h

mov dl,0Dh

mov ah,02

int 21h

mov cx,bx

loop jump1

mov ah,4ch

int 21h

ret

Main Endp

**Q4:**

.model small

.stack 100h

.data

msg1 db "Grade is A+",0

msg2 db "Grade is A",0

msg3 db "Grade is B",0

msg4 db "Grade is C",0

msg5 db "Grade is F",0

.code

Main proc

mov ax,@data

mov ds,ax

mov bx,50

;the given marks are 50

cmp bx,90

jge A1

cmp bx,80

jge A

cmp bx,70

jge B

cmp bx,60

jge C

jmp F

A1:

lea dx,msg1

mov ah,09h

int 21h

jmp Exit

A:

lea dx,msg2

mov ah,09h

int 21h

jmp Exit

B:

lea dx,msg3

mov ah,09h

int 21h

jmp Exit

C:

lea dx,msg4

mov ah,09h

int 21h

jmp Exit

F:

lea dx,msg5

mov ah,09h

int 21h

jmp Exit

Exit:

mov ah,4ch

int 21h

Main Endp

End Main

**Q6:**

.model small

.stack 100h

.data

STRING1 DB 'acca', '$'

STRING2 DB 'String is palindrome', '$'

STRING3 DB 'String is not palindrome', '$'

.code

Main proc

mov ax,@data

mov ds,ax

Palindrome PROC

MOV SI,OFFSET STRING1

LOOP1 :

MOV AX, [SI]

CMP AL, '$'

JE LABEL1

INC SI

JMP LOOP1

LABEL1 :

MOV DI,OFFSET STRING1

DEC SI

LOOP2 :

CMP SI, DI

JL OUTPUT1

MOV AX,[SI]

MOV BX, [DI]

CMP AL, BL

JNE OUTPUT2

DEC SI

INC DI

JMP LOOP2

OUTPUT1:

LEA DX,STRING2

MOV AH, 09H

INT 21H

RET

OUTPUT2:

LEA DX,STRING3

MOV AH,09H

INT 21H

RET

Palindrome ENDP

Exit:

mov ah,4ch

int 21h

End Main