**LAB 11 COAL**

**Task 1:**

.model small

.stack 100h

.data

arr DB 49, 50, 51, 52

minVal DB 0

.code

main proc

mov ax, @data

mov ds, ax

mov si, offset arr

mov cx, 4

mov al, [si]

mov minVal, al

find\_min:

inc si

mov al, [si]

cmp al, minVal

jge next\_element

mov minVal, al

next\_element:

loop find\_min

mov dl, minVal

mov ah, 2

int 21h

mov ah, 4Ch

int 21h

main endp

end main

**task 2:**

**.model small**

**.stack 100h**

**.data**

**arr DB 49, 50, 51, 52**

**maxVal DB 0**

**.code**

**main proc**

**mov ax, @data**

**mov ds, ax**

**mov si, offset arr**

**mov cx, 4**

**mov al, [si]**

**mov maxVal, al**

**find\_max:**

**inc si**

**mov al, [si]**

**cmp al, maxVal**

**jle next\_element**

**mov maxVal, al**

**next\_element:**

**loop find\_max**

**mov dl, maxVal**

**mov ah, 2**

**int 21h**

**mov ah, 4Ch**

**int 21h**

**main endp**

**end main**

**task 3:**

**.model small**

**.stack 100h**

**.data**

**.code**

**main proc**

**mov ah,1**

**int 21h**

**mov cl,al**

**sub cl,48**

**mov ah,1**

**int 21h**

**mov bl,al**

**sub bl,48**

**mov dl,2**

**mov al,bl**

**mul cl**

**div dl**

**AAM**

**mov ch,ah ; for high bit**

**mov cl,al**

**mov dl,ch**

**add dl,48**

**mov ah,2**

**int 21h**

**mov dl,cl ; for low bit**

**add dl,48**

**mov ah,2**

**int 21h**

**mov ah,4ch**

**int 21h**

**main endp**

**end main**

**task 4:**

**.model small**

**.stack 100h**

**.data**

**.code**

**main proc**

**mov ah,1**

**int 21h**

**mov cl,al**

**sub cl,48**

**mov al,cl**

**mul cl**

**mul cl**

**AAM**

**mov ch,ah ; for high bit**

**mov cl,al**

**mov dl,ch**

**add dl,48**

**mov ah,2**

**int 21h**

**mov dl,cl ; for low bit**

**add dl,48**

**mov ah,2**

**int 21h**

**mov ah,4ch**

**int 21h**

**main endp**

**end main**