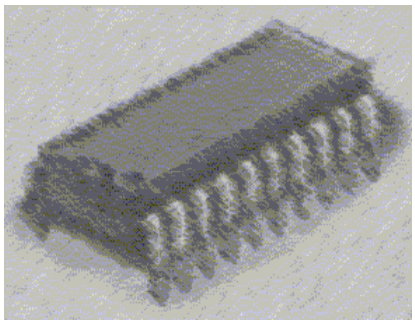

PRACTICE 1: Fundamentals of assembly programming

Objectives:

Student will be able to create small assembly programs when finishing the practice. Students will write, assemble, link and execute small assembly programs written by their own.

Programs used:

Microsoft Assembler 5.1 will be used to assemble (MASM), link (LINK) and execute (CODE VIEW) assembly programs.

PRACTICE 1 ACTIVITIES

Exercise #	Exercise

1	Write, assemble, link and execute next program code:
	Dosseg
	.model small
	.stack 100h
	.data
	  Operando1 DB 10h
	  Operando2 DB 20h
	  Resultado DW 0000h
	.code
	Inicio:
	  mov ax, @data
	  mov ds, ax
	
	  sub ax, ax
	
	  mov al, Operando1
	  add al, Operando2
	  mov Resultado, ax
	
	  mov ah, 4Ch
	  int 21h
	end Inicio

2	Execute above program, step by step using Code View debugger.
3	Execute activity one program again and type r AX (hit enterenter) when *mov al, Operando1* instruction. Type 255 (and hit enter). Finally, go on with the program execution. ¿What's happen with the result of the program?
4	Change *add al, Operando2* activity 1 program to *sub al, Operando2*. Write, assemble, link and execute program again. What's going on?

Exercise #	Exercise

5	Write, assemble, link and execute next program code:
	Dosseg
	.model small
	.stack 100h
	.data
	  Operando1 DB 10h
	  Operando2 DB 20h
	  Resultado DW 0000h
	.code
	Inicio:
	  mov ax, @data
	  mov ds, ax
	
	  sub ax, ax
	  sub bx, bx
	
	  mov al, Operando1
	  mov bl, Operando2
	  mul bl
	  mov Resultado, ax
	
	  mov ah, 4Ch
	  int 21h
	end Inicio

6	Write, assemble, link and execute next program code:
	Dosseg
	.model small
	.stack 100h
	.data
	  Operando1 DB 10h
	  Operando2 DB 20h
	  Resultado DW 0000h
	.code
	Inicio:
	  mov ax, @data
	  mov ds, ax
	
	  sub ax, ax
	  sub bx, bx
	  sub dx, dx
	
	  mov al, Operando2
	  mov bl, Operando1
	  div bl
	
	(program code continues in next page)

Exercise #	Exercise
	(program code continuation from previous page)

	mov Resultado, AX
	
	  mov ah, 4Ch
	  int 21h
	end Inicio

7	Write, assemble, link and execute next program code:
	Dosseg
	.model small
	.stack 100h
	.data
	  Operando1 DB 10h
	  Operando2 DB 20h
	  Resultado DW 0000h
	.code
	Inicio:
	  mov ax, @data
	  mov ds, ax
	
	  sub ax, ax
	  mov al, Operando1
	  push ax
	  add al, Operando2
	  pop ax
	  mov Resultado, ax
	
	  mov ah, 4Ch
	  int 21h
	end Inicio

8	¿Is correct the above result?

PRACTICE 1:
Assembly programming

Write and assembly program in which the four basic operation will be performed. Input data will be provide through Op1 and Op2 variables. The result of addition, subtraction, multiplication and division will be stored in ResSuma, ResResta, ResMul and Resdiv variables.