Lab 3 - Exercises - Assembly - Emu8086

Table of Contents

Ex_22 to Ex_25 : Attached with the assembly files.

Ex_12

Write a program that calculates the sum of the first 6 natural numbers and **saves** the result in a variable named **SUM**.
Hint: The formula for sum n natural numbers is $SUM = n (n + 1) / 2$.

Ex_13

In a computer shop, a laptop that sells for an original price 6000 LE is marked a sale rate "20% off". Write a program that calculates the price of the Laptop after sale and **saves** it in a variable named **SPRICE**.
Hint: price after sale = original price - sale & sale = original price x sale rate.

Ex_14

Write a program that **transfers** the elements of the byte array **DATA = 25h, 4Fh, 85h, 1Fh, 2Bh, OC4h** into a byte array **COPY** using index addressing method.

Ex_15

Write a program that:
A) **Saves** the marks (60, 80 and 90), for a student on 3 courses in an array called **Marks**.

B) **Calculates** the summation and the average of student marks and **saves** them in variables named **SUM** and **AVG** respectively.

C) **Transfers** the offset addresses of **SUM** and **AVG** into **SI** and **DI** registers respectively.

Ex_16

Write a program that **calculates** the value of the following expression:
RESULT = (-VAR1 + VAR2) x VAR3
Where **VAR1**, **VAR2** and **VAR3** are byte variables, which have the values **15h**, **20h** and **10h** respectively.

Ex_17

Write a program that **copies** the elements of the byte array **Marks = 10, 20, 30** into a byte array **COPY** using Indirect Addressing.

Ex_18

Write a program in Assembly language that **transfers** the elements of a byte array **VAR = 10h, 11h, 12h, 13h** into **AL**, **AH**, **BL** and **BH** registers respectively using direct-offset addressing.

Ex_19

Write a program in Assembly language that **transfers** the elements of a word array **VAR = 1010h, 2020h, 3030h** into array **COPY** using direct-offset addressing.

Ex_20

Write a program in Assembly language that **exchanges** the values of **VAR1 = 2000h** and **VAR2 = 3000h** using exchange instruction.

Ex_21

Write a program in Assembly language that **transfers** the initial value of variable **VAR = 1020h** to variable **Copy** indirectly (using indirect addressing).

Ex_26

Write a program in Assembly language that **transfers** the elements of a byte array **DATA = 10h, 11h, 12h, 13h, 14h, 15h** into array **COPY** using **LOOP**.

Ex_27

Write a program in Assembly language that **calculates** and **saves** the sum of the elements of a byte array **DATA = 10h, 10h, 10h, 10h, 10h**.