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Subject: COAL - Lab

LAB TASK – 2

1. Write an uninitialized data declaration for an 8-bit signed integer *val1* and also initialize another 8-bit signed integer *val2* with -10. Now use the value of *val2* to initialize *val1*.

Solution:

INCLUDE Irvine32.inc

.data

val1 SBYTE ?

val2 SBYTE -10

.code

MOV val2,val1

1. Create an uninitialized data declaration for a 16-bit unsigned integer. Copy whatever is in the BX to this integer.

Solution:

INCLUDE Irvine32.inc

.data

x WORD ?

.code

mov x,bx

1. Declare a 32-bit signed integer *val3* and initialize it with the smallest possible negative decimal value.

Solution:

INCLUDE Irvine32.inc

.data

val3 SDWORD -2147483648

1. Declare an unsigned 16-bit integer variable named **wArray** that uses three initializers

Solution:

INCLUDE Irvine32.inc

.data

wArray WORD 1,2,3

1. Declare a string variable containing the name of your favorite color. Initialize it as a null terminated string.

Solution:

INCLUDE Irvine32.inc

.data

MyStr BYTE "Black",0

1. Initialize five 16-bit unsigned integers A, B, C, D & E with the following values: *12, 2, 13, 8, 14*. Create another uninitialized unsigned integer called *value*. Now write a program to evaluate the expression A \* B + C \* D – E and store the result in *value*.

*(Note: For this example, expression should be resolved from left to right)*

Solution:

*INCLUDE Irvine32.inc*

*.data*

*A WORD 12*

*B WORD 3*

*C WORD 13*

*D WORD 8*

*E WORD 14*

*value WORD ?*

*.code*

*mov ax,a*

*mul b*

*add ax,c*

*mul d*

*sub ax,e*

*mov value,ax*