

Nasir-Ameen Nasir

17/ENG02/045

~~Ameen~~

COE 306 Midsemester test

1a.) It will not be a good idea since the instructions would have to be updated whenever new variables ~~are~~ are inserted before old ones

b.) Object files and listing files

2a.) Portability as regards programming languages is the ability of a programming language to run on processors of different manufacturers.

b.) ~~No~~ No it is not the same because assembly languages are not portable between various families of processors

c.) 32 bit registers

EAX

EBX

ECX

EDX

32 bit

c.)

EAX

16 bits

8 bits high

8 bits low

AX

AH

AL

AX is used for input and output and arithmetic instructions, it is the primary accumulator

Question 3a). Each The system memory is divided into independent segments referenced by pointers as the segmenters and each segment contains a specific type of data. The various segments are Data segment, Code segment and Stack.

b.) Main Proc :- this identifies the beginning of the ~~MOV~~ procedure named 'main'

MOV AX :- It copies the value 47104 to the AX register.

ADD EAX :- It copies the binary octal number 1270 to the EAX register

MOV DS, AX :- It points to the data segment usually requires a "mov ax, @data" to work

Main ENDP :- Marks the end of the procedure 'main'

5009A

c.) i.) defines the variable as a hexadecimal integer (60h) of 8 bits (byte)

ii.) It leaves the variable uninitialised, as it would be assigned a value at runtime.

iii.) defines the variables as signed 8 bit integers.

17/EN02/045

~~Answer~~

### Question 4

TITLE Subtract (sub-asm)

; This program subtracts 16 bit integers registers

INCLUDE Irvine32.inc

• data

Val1 WORD 1000h

Val2 WORD 3000h

Val3 WORD 2000h

finalVal WORD ?

• code

main PROC

MOV ~~eax~~, ~~0000h~~

MOV ~~eax~~, Val2 ; ax = 3000h

SUB ~~eax~~, Val3 ; ax = 1000h

SUB ~~eax~~, Val1 ; ax = 0

call DumpRegs

exit

main ENDP

END main