Matric No: 17/ENG02/1062 Signature: ff

Question 1

(a) Because the addresses coded in the instructions would have to be updated whenever new variables were inserted before existing ones.

(b) Object files

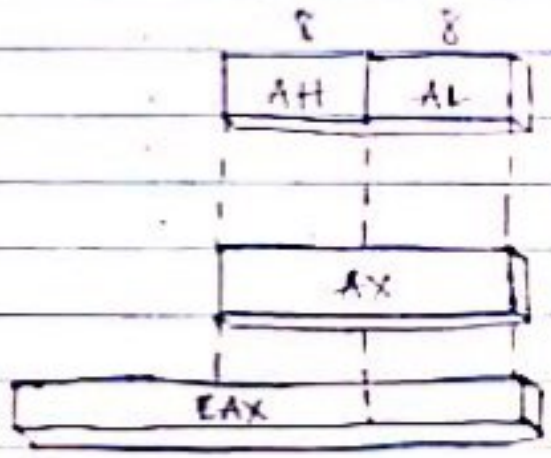
Question 2

(a) The concept of portability as it applies to programming language is the ability of the same software to be able to run on any operating system it is put on.

(b) No. They are different

Reason: They are different because they operate on different instruction sets, different machine code, different combinations and so they vary from each other

(c)



Question 3

(a) Segmentation is achieved by using directives, which are embedded commands in the source code. They are

- code {used to describe the area with executable instructions}
- data {used to describe the area with variable declarations}
- stack {used to described the area with stack parameters}.

Question 3 Signature ...

(b) - Main Proc : Has identifies beginning of a procedure. The name chosen for the only procedure in our program is main

- Mov Ax, 4710H : Move 4710H to the AX register

- ADD EAX, 127Q : Add 127Q to the EAX register

- MOV DS, AX : Move Ax to the DS register

- main ENP : marks the end of the main Procedure.

(c) (i) value 1 BYTE 6DH ; unabased unsigned 8-bit variable declaration

(ii) value 2 DWORD ? ; Uninitialized 32-bit unsigned integer

(iii) value 3 SBYTE -10, -20, -30, -40, -50 ; multiple initialized signed integer

Question 4

TITLE Add and Subtract (AddSub.asm)

; Programs Assignment 1 - Subtracting three Integers.

; Using the AddSub program from Section 3.2 as a Register

; Write a program that subtracts three integers.

; Insert a call DumpRegs statement to display the register

INCLUDE Irvine32.inc

.code

main PROC

mov eax, 80000h ; EAX = 80000h

sub eax, 40000h ; EAX = 40000h

sub eax, 20000h ; EAX = 20000h

Call DumpRegs ; display registers

exit

main ENDP

END main