

NAME : Okhine Chukwameah

17/Eny 02/065

Computer Engineering

1. This is because the addresses ~~would~~ <sup>would</sup> need to be ~~continues~~ updated everytime a ~~new~~ <sup>new</sup> variable is inserted before existing ~~vars~~ variables

2. ~~There are two types of files~~

The two types of files are Listing. LST files and Object. Obj files

Question 2:

Portability refers to the ability of the language to be easily used in another type of operating system

b) ~~is the assembly~~ No assembly language for Intel is not the same as that for AMD or Motorola chips. Because Assembly language is CPU dependent therefore it varies across different CPU in the sense that certain ~~commands~~ <sup>built</sup> in commands are different.

c) The 16 bit registers

	32bit			16bit
EAx		AH	AL	Ax - Accumulator
EBx		BH	BL	Bx - Base
ECx		CH	CL	Cx - Counter
EDx		DH	DL	Dx - Data

Question 3

a) By dividing it into 3 segments where each segment eg The Data segment ~~stores~~ <sup>declares the</sup> segment where data elements are stored for the program, while Code segment stores the code and the Stack segment stores data values passed to functions ~~within~~ the program

~~1)~~  
b) `main proc =` This is ~~declaring~~ <sup>declaring</sup> that the ~~code~~ <sup>code</sup> below is ~~main~~ <sup>main</sup> process to be run by the CPU

i) `mov AX, 47104` = This is a command that says 47104 should be moved to the ~~AX~~ <sup>AX</sup> register

ii) `ADD EAX, 1270` = This line ~~says~~ <sup>or code</sup> ~~says~~ <sup>say</sup> that 1270 should be added to the value in the EAX register

iii) `mov DS, AX` = This line says that the values in the address of AX register should be moved to the address of the DS register

`main endp` = This line says that the main procedure command should ~~be~~ <sup>end</sup> end here

c. `value1 byte 6Dh` = This code declares a ~~byte~~ <sup>variable of</sup> ~~value~~ <sup>byte value</sup> name "value1" and data type ~~byte~~ <sup>"Byte"</sup> which contains a value of 6Dh which is an 8-bit value

`value2 D word?` = This line declares a variable "value2" of data type 'double word' meaning that it is an unsigned, 32 bit unit of data ~~that can contain an integer~~ ~~word~~ ~~of~~ ~~32~~ ~~bits~~. The question mark means that the variable value 2 is empty

`value3 S byte -10, -20, 30, -40, -50` = This code declares a variable ~~called~~ <sup>called</sup> "value3" that

~~Code~~  
Contains an array of data  $\leftarrow$

#### Question 4

INCLUDE Irvine32.inc

• Code

main PROC

```
mov AX, 32767 12732 ; moving 12732 to AX register  
ADD AX, 10142 ; Adding 10142 to AX register  
Sub AX, 11371 ; Subtracting 11371 from AX register  
Call DumpRegs ; Display the register  
Exit  
main ENDP
```