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COE 306

17/MHS 01/13

COMPUTER ENGINEERING

(1a) Why would it not be a good idea to use numeric addresses when writing instructions that access variables?

The address coded/programmed in the instructions would have to be updated whenever new variables were inserted before existing ones.

(1b) Types of files produced by assemblers.
→ Object obj and listing .lst files.

2a

(1c) Portability is when a computer program can run on multiple operating systems other than the one it was created with, without requiring major rework. Moving it to a new environment is ~~per~~ called porting. Porting is the task of doing any work necessary to make the computer program run in the new environment.

(2b) Each assembly language is based on either a processor family or a specific computer.

APR

②

	31	16	15	8	7	0	
AX			AH			AL	AX Accumulator
EBX			BH			BL	EBX Base
ECX			CH			CL	ECX Counter
EDX			DH			DL	EDX Data

AX is the primary accumulator. it is used in output input and most arithmetic instructions.

EBX is known as the base register, as it could be used in indexed addressing

ECX is known as the count register, as the ECX register store the loop count in iterative operations.

EDX is known as the data register, it is also used in input and output operations.

③ `Main proc` ⇒ The `proc` directive indicate the beginning of a procedure

`Main Endp` ⇒ The `main Endp` is the end statement indirectly calls a predefined ms-windows functions then ends the program

MOV AX, 47104: The mov instruction the register integer 47104. the Add instruction adds 1270 to the EAX register ~~mov~~.

④ TITLE Add and Subtract

; Program Assignment 1 - Subtracting three integers
; Using the AddSub program ~~assignment~~

INCLUDE Irvine32.inc

code

main proc

mov eax, 10000h ; EAX = 10000h

sub eax, 40000h ; EAX = 50000h

sub eax, 20000h ; EAX = 30000h

call DumpRegs ; display registers

exit