



ODATUNWA ORUBEMEYIWA JEFFREY

COMPUTER ENGINEERING

17/ENG02/060

COE 306 - Assembly language programme.

Lead

Question 2

a Portability is a characteristics attributed to a computer program if it can be used in an operating systems other than the one in which it was created without requiring major rework. Porting is the task of doing any work necessary to make the computer program run in the new environment

b No, they are not.

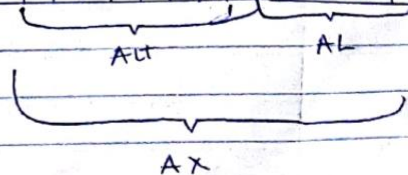
Each assembly language is based on either a processor family or a specific computer

c It stands for a general purpose register. The 16bit AX register can be addressed as AH (high byte) and AL (low byte). The EAX register is the 32 bit version of the AX register. The E stands for extended.

31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0



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See

29 Segmentation in assembly language is the process of dividing the system memory into groups of independent segments referred by pointers located in the segment registers. Segments are divided into.

(*) Data Segment: which is used to declare the memory region where data elements are stored.

(*) Code Segment: which is where instruction codes are stored.

(*) Stack: where the data values passed to functions and procedures within the program.



Question 3C

i Value 1 BYTE 65h

is the name given to the variable
BYTE → is the directive that defines the data
that is to be represented

ii Value 2 DWORD? This value name is "value2",
DWORD is the directive and the question mark
means that a value will be assigned to it later.

iii Value 3 'SBYTE -10, -20, -30, -40, -50'
This is a defined statement that contains multiple
signed bytes (SBYTE). The name given to it
is value3;

3B

i Main PROC: This defines the procedure.

ii MOV AX, 47104: This tells the computer to copy the
number 47104 into the location AX.

iii ADD EAX, 127Q; tells the computer to add the
variable 127Q into the location EAX.

iv MOV DS, AX: This tells the computer to copy the
string AX into the location DS.

v main ENDP: This is the end of main.



Question 1

a This is because the addresses coded in the instructions would have to be updated whenever new variables were inserted before existing ones.

b Objects
in listing files