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17/ENG021003

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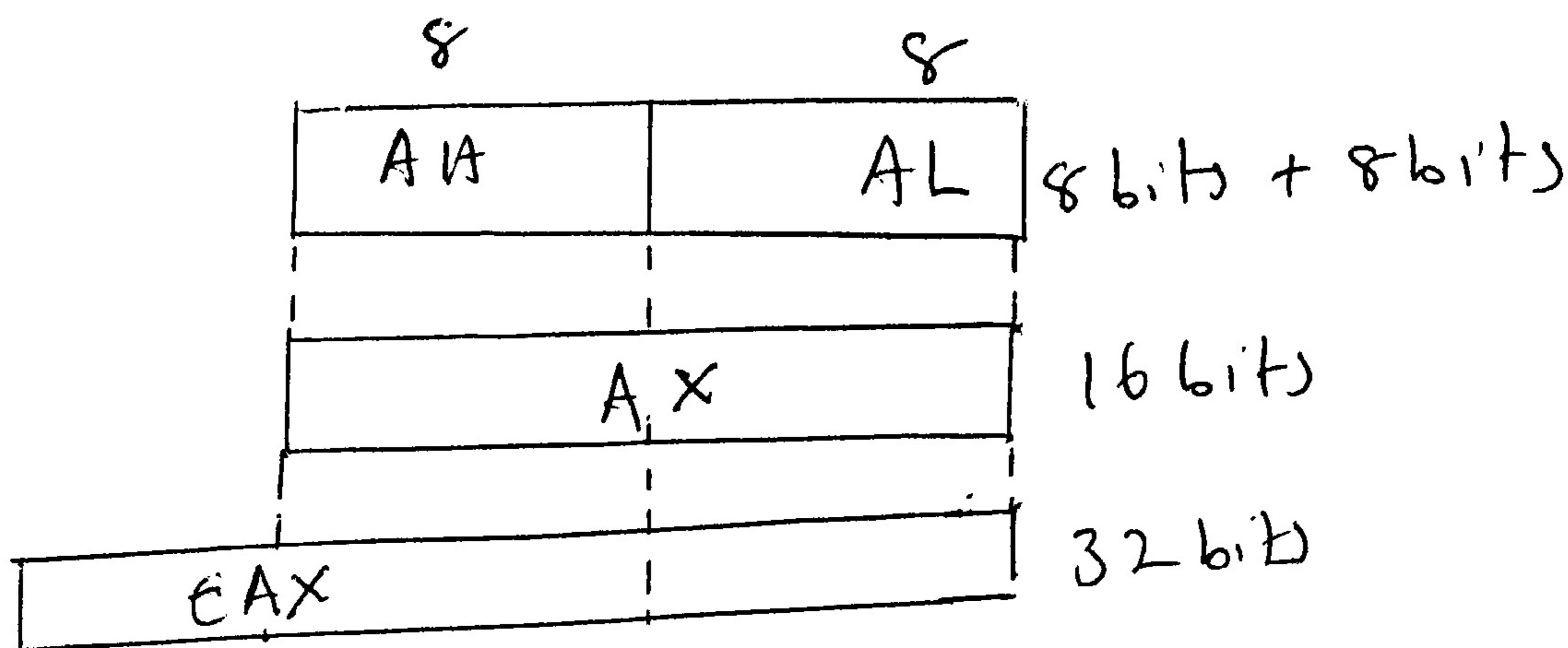
- (1a) It is not a good idea because the addresses coded in the instruction would have to be updated whenever new variable were inserted before existing ones.
- (b)(i) Object file {file containing machine language but not executable}.
- (ii) Listing files.

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- (2a) Porting or portability in programming language involves how wide is the range of computer systems which can access the programming language
- (b) The assembly language for x86 processors is different from AMD or Motorola 68x00 because assembly language is specific to devices of a particular computer architecture which means they cannot be ~~access~~ accessibility on a different processor.
- (c) The EAX register is used for arithmetic and logical operations. it is a 32-bit register which can be sub-divided into a 16-bit register called AX which can also be sub-divided into an 8-bit register consisting of AH and AL



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3a) 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 variables declaration }

stack { used to describe the area with stack pointers }

3b) Main Proc

This shows that the procedure has been initialized, the variable "main" is used to name the procedure being executed. It identifies the beginning of the code:

MOV AX, 47104 - This tells the program to move '47104' into the register AX.

ADD EAX, 127C - This tells the program to add 127C (in bases) to the value already existing in EAX register

MOV DS, AX - This tells the program to move the value in AX into DS

main ENDP - This is the exit statement that calls a predefined MS-Windows function that halts the program.

3C) Value 1 Byte 60h ;
↓ ↓ ↓ ↓
Label Directive initializer radix

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This tells the system to store byte ~~60h~~ 60h under value 1 label. It is an unsigned byte.

(4)

Main Proc

data:

num: sword

MOV AX, 600

MOV BX, 200

MOV CX, 50

MOV num, AX

SUB num, BX

SUB num, CX

CALL DumpRegs

Main END P