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MID EXAMINATION.

Q1a) ~~It is not~~ Because the address coded in the instructions would have to be updated whenever new variables were inserted before existing ones.

Q1b) i) Object file {file containing machine language but not executable}.

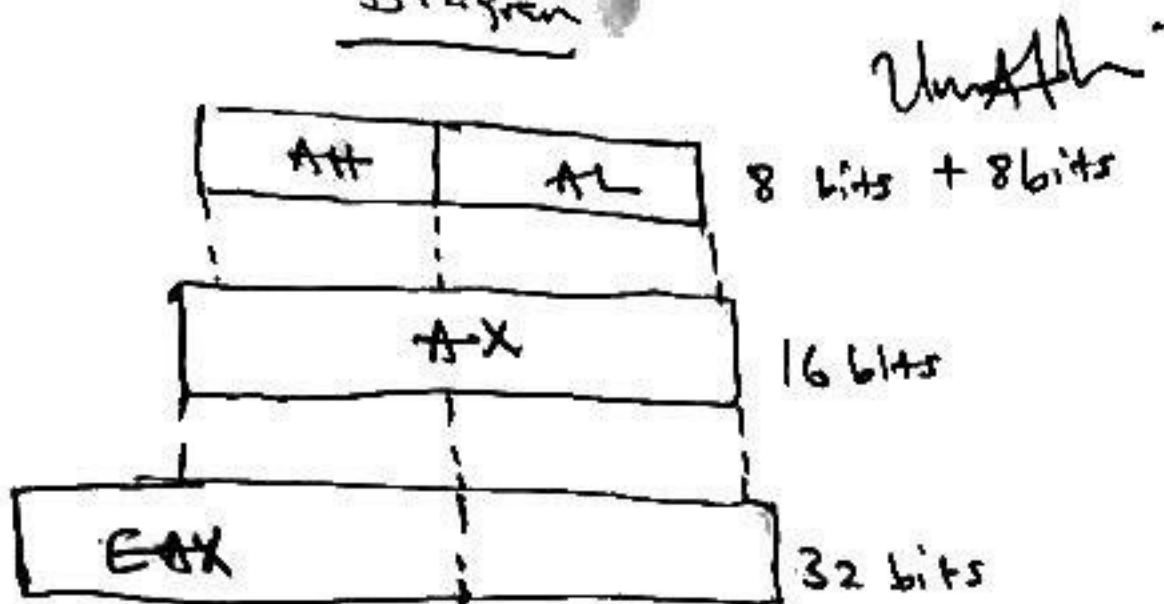
(ii) Listing files.

Q2a) Portability is the characteristic of a code that is used on more than one ~~operating~~ and involves how wide or the range of computer system which can access the programming language.

b) The assembly language for X86 processors is different from ARM or Motorola 68K because assembly language is specific to devices of a particular computer architecture which means they cannot be accessible on a different processor.

Q3) 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.

Diagram



Q36) Main Proc: This signifies the beginning (start of a procedure).

MOV AX, 47104: This copies 47104 to the AX register.

ADD EAX, 1270: This instruction adds 1270 to the EAX register.

MOV DS, AX: This instruction moves the data segment from the AX into the DS.

Main ENOP: This signals the end of the main procedure.

Q39) Segmentation is achieved through the use of memory segments. Each segment is used to contain a specific type of data. They are:

code: { used to describe the area with executable instructions }

data: { used to describe the area with variable declarations }

stack: { used to describe the area with stack pointers }

~~Figure~~

Q3C)

Value 1

Label

Byte

Directive

60h

Initializer

Label

This tells the system to store byte 60h under Value 1 label (it is an initialized byte).

Q4)

Main proc.

data:

number: Run

MOV AX, 600

MOV BX, 200

MOV CX, 50

MOV num, AX

MOV num, BX

SUB num, CX

CALL DUMP REGS

Main ENDP

, display registers

exit.