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COURSE: COE 306

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QUESTION 1

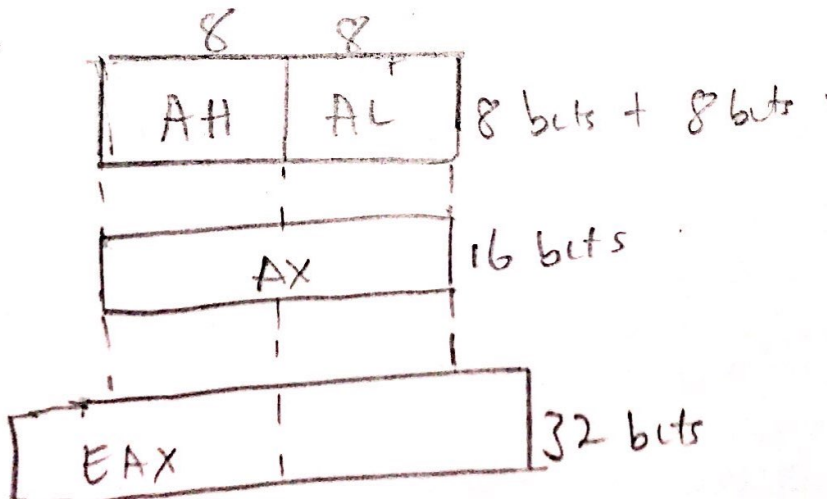
- (a) It is not good idea because the addresses coded in the instructions would have to be updated whenever new variables were inserted before existing ones.
- (b) Object file
- (c) Listing files

QUESTION 2

(a) Portability:

is ^a characteristic attributed to a computer program if it can be used in an operating system other than the one in which it was created without requiring major rework.

(c) The EAX register is used for arithmetic and logical operations. It is 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.



2b) <sup>Intel
MIPS.</sup> The - assembly language for x36 processor is different from AMD or motorola 6800 because assembly language is specific to devices of a particular computer architecture which means they cannot be ~~accessibility~~^{accessible} on a different processor.

QUESTION 3

1/2 mark

(b) 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 number of the data segment from the AX into the DS.

Main ENDP; This signals the end of the main procedure.

3a) Segmentation is achieved by using directives which embedded commands in the source code.

These 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).

3c) 1 BYTE 60h : (Value 1) → Name given to the variable

(BYTE) : Directive that defines the data to be represented.

(60h) : Initializer in hexadecimal.

(ii) Value 2 Dword?; Value name is "Value 2"

Dword is directive and the question mark ^{means} ~~is the~~ a value will be assigned to it later.

UE

QUESTION 4

6

Main Proc

data:

num: sword

MOV AX, 600

MOV BX, 200

MOV CX, 50

MOV num, AX

SUB num, BX

SUB num, BX

CALL DumpRegs

Main ENDP

Kayan
Aban