

OKOH JOSHUA CHUKWUMA
COMPUTER ENGINEERING
171ENG021066
COE 306

Joshua

MID TERM TEST

a) The addresses coded in the instructions would have to be updated whenever new variables were inserted before existing ones

b) The main output produced by assembling an input assembly language source file is the translation of that file into an object file in (ELF). ELF files are produced by the assembler.

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 which it was created without requiring major rework.

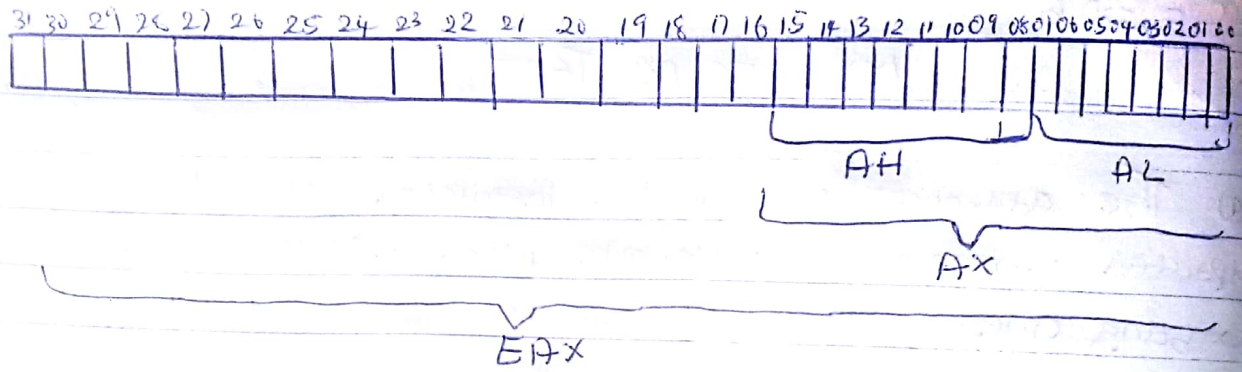
b)

c) EAX register is a 32-bit general-purpose register with two common uses:

a) To store the return value of a function and as a special register for certain calculations

b) It is technically a volatile register, since the value isn't preserved

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Question 3

a) Segmentation refers to the fact that in human language there is a small discrete primitive elements that clearly contrast with each other. The words of human language are composed of discrete segments both morphemes (meaningful) and phonemes (non-meaningful). Each segment is used in a specific type of data - in containing data, code and stack.

b) ~~MOV AX~~ Main pro C
 MOV AX, 47104
 ADD EAX, 1270
 MOV DS, AX
 main ENDP

Line 1 - The pro C directive that show the start of a procedure. The name chosen for the program procedure is "main".

Line 2 - This is telling the computer to copy the number 47104 into location AX

Line 3 - This is telling the computer to add 1270 into the EAX register

Line 4 - Says to cover the number in the AX register to DS register

Line 5 - is an exit statement to halt and end the program

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c)

Question 4

Code

main PROC

```
mov eax, 90000h ; EAX = 10000h  
sub eax, 40000h ; EAX = 50000h  
sub eax, 20000h ; EAX = 30000h  
call Dumpregs ; display registers
```

Exit