

Editor Lawrence Crinkler
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Computer Engineering

1a. It isn't a good idea to use numeric addresses when writing instructions because the addresses coded ~~was~~ in the instruction would have to be updated whenever new variables were inserted before existing ones

b. ~~The~~ Object file (A file containing machine language but non-executable)

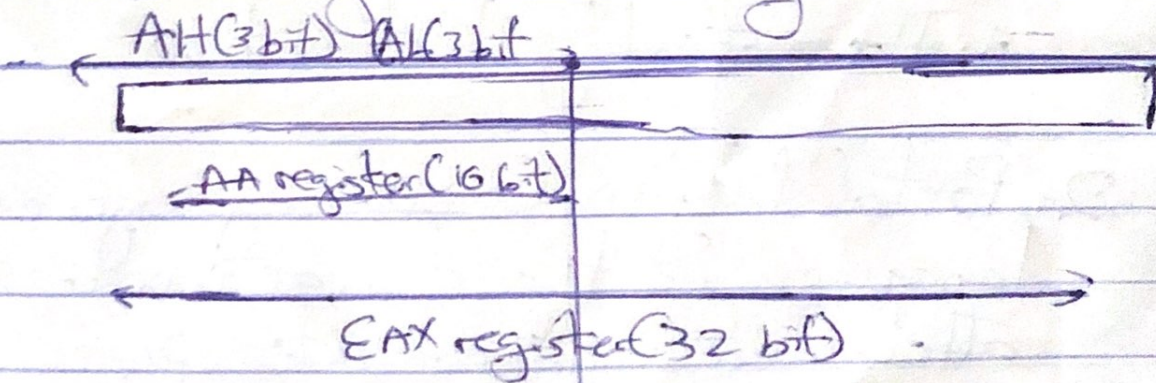
i. ~~The assembly~~ listing files

2a. Portability in Computer programming language is the characteristics attributed in a computer program if it can be used in an operating ~~system~~

system other than the one in which it was created without increasing work

b. The assembly language for x86 processes is different from AMD or Motorola 68x100 because assembly language is specific to device of a particular computer architecture, which means they cannot be accessible on a different processor

c. The EAX register is used for arithmetic and logical operations. It is a 32-bit register which can be subdivided into a 16-bit register called AX which can also be subdivided into a 3-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 with executive instructions
- data used to describe the area with variable declaration

b. Main Proc

This shows that the main procedure has been initialized, the variable "main" is used to name the procedure being executed

`MOV AX, A7104`

This moves 47104 (source code) into the AX register (destination)

* `ADD EAX, 1270`

— This perform an arithmetic operation on the EAX register by adding 1270 to the EAX register

Register

* MOV DS, AX

The moves the value of the AX register into the DS register

* main END P

This ends the procedure runtime

i. Value 1 BYTE 60h

This declares a variable called "value 1" which has the equivalent size of an unsigned byte and assigns the value or initializes the variable with the value "60h"

ii. value 2 DWORD

This declares a variable called "value 2" which has the equivalent size of a "double word" but has an uninitialized value which would be initialized at runtime

iii) value 3 3 BYTE

declares a variable called "value 3" which

~~code~~

has the equivalent of a signed byte
and a series of values assigned to it

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TITLE "A program that can subtract
two integers" (sub.asm)

INCLUDE Irvine32.inc
code

MAIN PROC

MOV AX, 2000h, AxC = 2000h

Sub AX, 1000h, AX = 1000h

Call DumpRegs,

exit

Main ENOP

~~logos~~