

EE 213 Computer Organization and Assembly Language

Week # 7 Lecture # 16

29th Muharram ul Haram, 1440 A.H

10th October 2018

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Minds open...



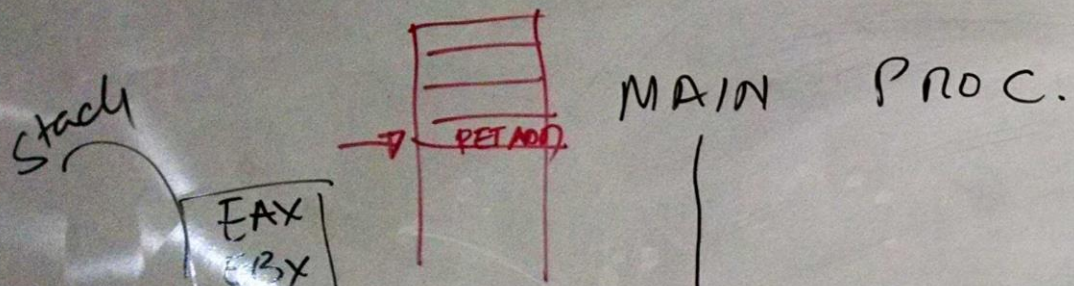
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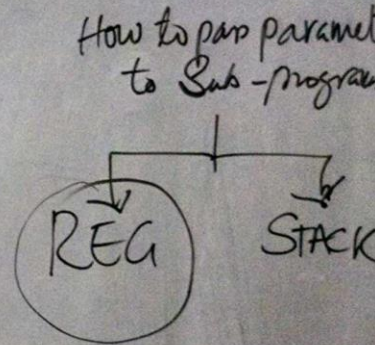
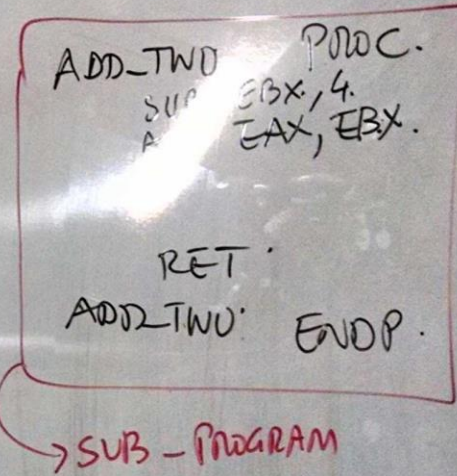
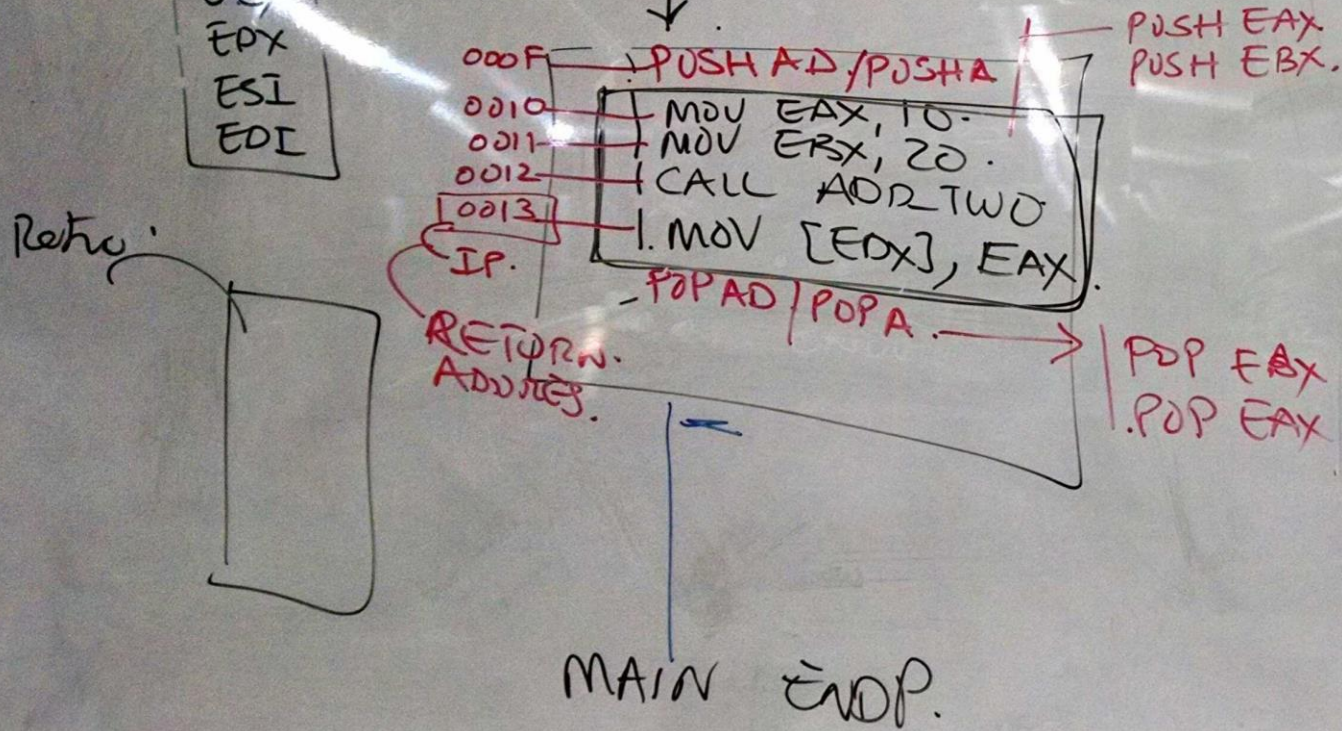
**This presentation helps in delivering the lecture.
Take notes, interact and read text book to learn and gain knowledge.**

Today's Topics

- Stack operation (review and class work)
- Segment and Offsets
 - 20 bit address (revision)
- Call and Return Instruction
 - Use of Stack using call and return
 - Use of stack preserving various registers which are used in parameter passing
 - Saving return value



POP. stack
JMP RET ADDRESS.



PUSH Address of next instruction on to stack.

CALL
ADD_TWO

RET.
Pops IP
from stack.
and jumps
to that address.

MAIN

PROC

~~PUSH AD / PUSH A~~

PUSH EAX
PUSH EBX

ADDI MOV EAX, 10
ADDI MOV EAX, 20

CALL ADD_TWO

ADDI MOV [EAX], EAX

~~POP AD / POP A~~

POP EAX
POP EBX

MAIN
EAX

ADD_TWO PROC

ADD EAX, EBX

RET

ADD_TWO ENDP

SYS-PROGRAM

EIP

How to pass parameters?

REG STACK

MAIN PROC.

PUSH AD / PUSH A.

Set parameter in Registers
CALL ADD_TWO.
process return values.

POP AD. / POP A.

MAIN ENDP.

ADD_TWO PROC.

ADD EAX, EBX.

ADD_TWO ENDP.

→ SUB-PROGRAM

How to pass parameters?

