

KAIST

EE209: Programming Structures for EE

IA-32 Registers

General Purpose Registers

EAX	<div style="border-bottom: 1px solid black; margin-bottom: 5px;">AX</div> <div style="display: flex; justify-content: space-around; border-bottom: 1px solid black;"> AH AL </div>
	<small>31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 09 08 07 06 05 04 03 02 01 00</small>
Accumulator for operands and results data. Stores function return values.	

EBX	<div style="border-bottom: 1px solid black; margin-bottom: 5px;">BX</div> <div style="display: flex; justify-content: space-around; border-bottom: 1px solid black;"> BH BL </div>
	<small>31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 09 08 07 06 05 04 03 02 01 00</small>
Accumulator for operands and results data. A function that alters EBX must restore it before returning.	

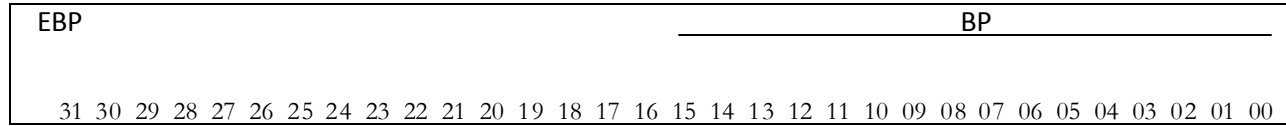
ECX	<div style="border-bottom: 1px solid black; margin-bottom: 5px;">CX</div> <div style="display: flex; justify-content: space-around; border-bottom: 1px solid black;"> CH CL </div>
	<small>31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 09 08 07 06 05 04 03 02 01 00</small>
Accumulator for operands and results data. Counter for string and loop operations.	

EDX	<div style="border-bottom: 1px solid black; margin-bottom: 5px;">DX</div> <div style="display: flex; justify-content: space-around; border-bottom: 1px solid black;"> DH DL </div>
	<small>31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 09 08 07 06 05 04 03 02 01 00</small>
Accumulator for operands and results data. I/O pointer.	

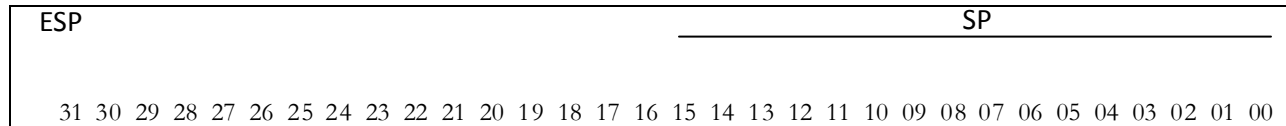
ESI	<div style="border-bottom: 1px solid black; margin-bottom: 5px;">SI</div>
	<small>31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 09 08 07 06 05 04 03 02 01 00</small>
Accumulator for operands and results data. Source pointer for string operations. A function that alters ESI must restore it before returning.	

EDI	<div style="border-bottom: 1px solid black; margin-bottom: 5px;">DI</div>
	<small>31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 09 08 07 06 05 04 03 02 01 00</small>
Accumulator for operands and results data. Destination pointer for string operations. A function that alters EDI must restore it before returning.	

General Purpose Registers (Stack Related)

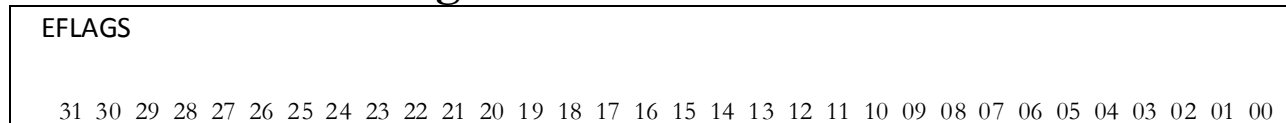


Base Pointer Register. Pointer to bottom of current stack frame.



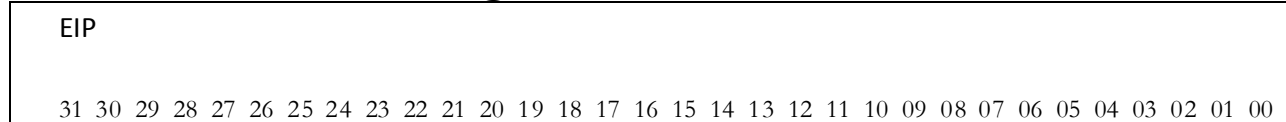
Stack Pointer Register. Pointer to top of current stack frame.

Status & Control Register



Condition code bits indicating the result of the most recent `cmp` instruction (and other instructions), and other control and status bits.

Instruction Pointer Register



Address of the next instruction to be executed.