## 16.317: Microprocessor Systems Design I

Fall 2014

Lecture 5: Key Questions September 12, 2014

1.	Explain the operation of the XCHG instruction	. What restrictions are	placed on	this
	instruction?			

2. Explain the operation of the LEA instruction.

## 3. **Example:** Given the initial memory state below:

	Hi			
0x528000	50	88	31	А3
0x528004	B2	FF	0F	7D
0x528008	07	D0	BE	22
0x52800C	11	96	00	14

Show the results of the following short instruction sequence.

MOV EAX, 528000h MOV EBX, [EAX+2] XCHG BL, BH LEA EDX [EAX+8]

LEA EDX, [EAX+8] MOV ECX, [EDX-3]

4. Describe the x86 flags.

5. Describe the operation of the ADD, ADC, and INC instructions.

6. Describe the operation of the SUB, SBB, DEC, and NEG instructions.