Computer Structure and Language

The 8086/8088 Assembly Language

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1

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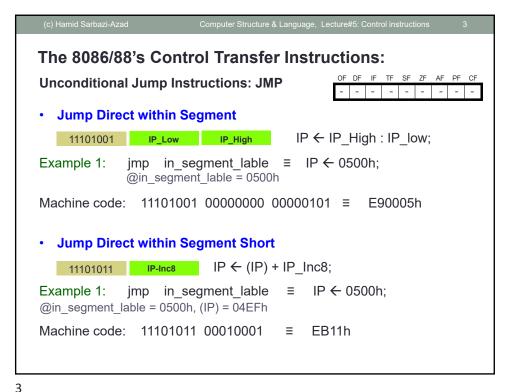
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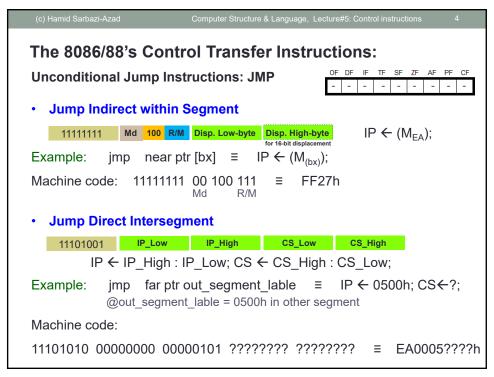
Computer Structure & Language, Lecture#5: Control instructions

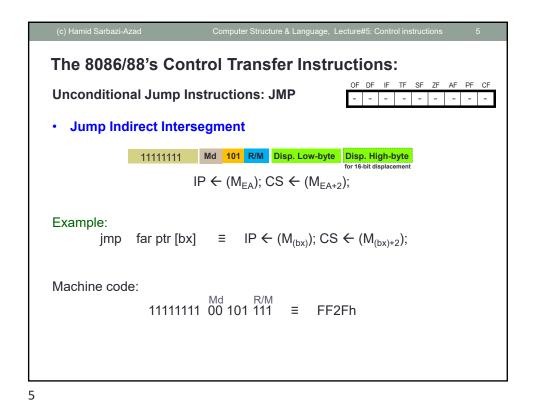
2

8086/88 has 7 types of instructions:

- 1. Data Transfer Instructions
- 2. Arithmetic Instructions
- 3. Bit Manipulation Instructions
- 4. String Instructions
- 5. Program Execution Transfer Instructions
- 6. Processor Control Instructions
- 7. Interrupt Instructions







e, Lecture#5: Control instructions

The 8086/88's Control Transfer Instructions:

Conditional Jump (all within segment short):

OF DF IF TF SF ZF AF PF CF

Jump on Equal/Zero: JE/JZ

Example 1: $jz zero_lable \equiv IP \leftarrow 0500h;$ @zero_lable = 0500h, (IP) = 04EFh, ZF=1

Machine code: 01110100 00010001 ≡ 7411h

Jump on Less/Not Greater or Equal: JL/JNGE

01111100 IP-Inc8 if SF xor OF=1 then IP ← (IP) + IP Inc8;

Jump on Less or Equal/Not Greater: JLE/JNG

01111110 IP-Inc8 if (SF xor OF) or ZF =1 then IP←(IP)+IP_Inc8;

