BRANCH INSTRUCTIONS

- They are the most powerful instructions in μP as it allows the processor to change the sequence of program conditionally or unconditionally. They provide flexibility & versatility to a computer.
- The μP is a sequential machine which executes code from one memory location to the next. Branch instructions instruct the μP to go to a different memory location & μP starts executing machine codes from that new location.
- The address of the new location is either specified explicitly in the program or supplied by μP or by extra hardware.

- Branch instructions ar of three types:
- 1. Jump
- Call & Return
- Restart instructions
- Presently we shall discuss with Jump instructions; Call & Return shall be taken up in Subroutine chapter & Restart instructions in the Interrupt section.
- Jump specify the memory location explicitly. They are 3 byte instructions, 1t. Byte being opcode, 2nd. & 3rd bytes being the 16 bit memory location whereto the program jumps. Jumps are of 2 types, Conditional & unconditional.

Unconditional Jump

Opcode Operand Description

JMP 16-bit Jump

To instruct the μP to jump to 2000H, code is

M/C code	Mnemonics
C3	JMP 2000H
00	
20	

Testing the carry flag.

Ex: Load Hex nos. 9BH & A7H in registers D & E respectively & add the nos. If SUM>FFH, display 01H at output port0; otherwise display SUM.

PROBLEM ANALYSIS:

It has these steps:

1. Load nos. in regs.
2. Add the nos.