INSTRUCTION SET - 8051

8051 INSTRUCTION SET

1. DATA MOVE instructions

2. ARITHMETIC instructions

3. JUMP and CALL instructions

4. LOGICAL instructions.

DATA MOVE INSTRUCTIONS

MNEMONIC	DESCRIPTION	REMARKS
MOV, Rr	A ← Rr	Contents of any one of the registers R0...R7 is moved in A.
MOV A, add	A ← (add)	Contents in the mentioned address in internal RAM is moved into A.
MOV A, #n	A ← r	Data 'n' is immediately moved into A.
MOV A, @Rp	A ← (Rp)	Data at the address shown by R0 or R1 is moved into A.
MOV DPTR, #nn	DPTR ← nn	16-bit number (the address in external RAM) is moved into DPTR.
PUSH add		

ARITHMETIC INSTRUCTIONS

1. INCREMENT and DECREMENT
2. ADDITION and SUBTRACTION.
3. MULTIPLICATION and DIVISION.
4. DECIMAL ADJUST Accumulator.

MULTIPLICATION

MUL AB : Multiply A by B, i.e., (A)

(A) × (B)

MNEMONIC	REMARKS
MUL AB	(A) ← Lower byte of result. (B) ← Higher byte of result.

DIVISION

$\boxed{\textbf{DIV AB}}$: Divide A by B

MNEMONIC	REMARKS
DIV AB	(A) ← Integer part of Quotient. (B) ← Integer part of Remainder.

DECIMAL ADJUST ACCUMULATOR

A decimal number is represented in BCD form. Two packed BCD numbers form a two-digit number. The addition of two BCD numbers may be a non-BCD number. So, the Decimal Adjust Accumulator instruction is used to get the result in A in the BCD form (i.e., in decimal form).

DAA : Decimal adjust the sum of the two numbers in A.