STEPS IN Execution of AN Interrupt

When an interrupt occurs the follows action are generated by the processor.

1) Complete the execution of instruction in progress.

2) The Program Counter (PC) content which were address of next instruction in code memory which will be executed in normal program flow is pushed automatically to the stack. Program counter low byte (PCL) is pushed first and program counter high byte is pushed next.

3) Clear the corresponding interrupt flags.

4) Set interrupt in program Flip flop.

5) Generate a long call (LCALL) to the corresponding interrupt service routine address in the code memory.

PRIORITY OF INTERRUPTS IN 8051

A priority scheme is given to the interrupt source in 8051. The interrupt priority in decending order is shown below.

1) $\overline{INT}_0$ (IE$_0$)

2) TIMER0 (TF$_0$)

3) $\overline{INT}_1$ (IE1)

4) TIMER1 (TF1)

5) SERIAL PORT (RI OR TI)

INTERRUPT VECTOR TABLE FOR 8051

The interrupt is a disturbance which force the processor to suspend the current program and jump to specified program called interrupt service routine. The address of corresponding ISR are called vector address.

Interrupt Vector table for the 8051:

Interrupt	ROM location
RESET	0000 H
INT$_0$	0003 H
TIMER0	000B H
INT$_1$	0013 H
TIMER1	001B H
SERIAL PORT	0023 H