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Tutorial 6

Ans1: The following code achieves the desired task:-

```
        RIM             ; Read Interrupt mask
        MOV B,A         ; B ← A
        ANI 20H         ; Check whether 6.5 is pending
        JNZ NEXT
        EI
        RET             ; RST 6.5 is not pending
NEXT:   MOV A,B         ; Get bit pattern
        ANI ODH         ; Enables RST 6.5 by setting D1=0
        ORI 08H         ; Enable SIM by setting D3=1
        SIM
        JMP SERV        ; Jump to service routine for RST 6.5
```

Ans2: Maskable Interrupts are those which can be disabled or ignored by the microprocessor.
These interrupts are either edge triggered or level triggered, so they can be disabled.
Eg:- INTR, RST 7.5, RST 6.5, RST 5.5

Non-maskable Interrupts are those which cannot be disabled or ignored by microprocessor.
TRAP is a non maskable Interrupt.

Ans 3: The RIM means Read Interrupt Mask which is used to read the status of interrupts which are pending or yet to be executed.

SIM means Set Interrupt Mask which is used to set those interrupts via the value from accumulator.

Ans 4: The instruction to enable all interrupts in 8085 system is:-

EI

Ans 5: DAA :- Decimal Adjust After Addition eg adjust HEX value to BCD value after addition by adding 6.

Eg: DAA ; Makes A ← A+6

DAD :- Adds the operand pair to HL pair exhibiting 16 bit addition.

```
LXI H 75H
LXI D 536H
DAD D          ; HL ← HL+DE
```

XTHL :- Exchanges top of the stack with HL pair.

```
LXI H 75H ; HL ← 75H
CALL R    ; SP ← PC
R: XTHL   ; H ← PC value
RET       ; PC ← 75H
```

SPHL :- Copies HL pair value to Stack pointer.

Eg:-
```
LXI H 75H
SPHL    ; SP ← HL
```

PCHL :- Copies HL pair value to PC

Eg:-
```
LXI H 75H
PCHL ; PC ← HL
```

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