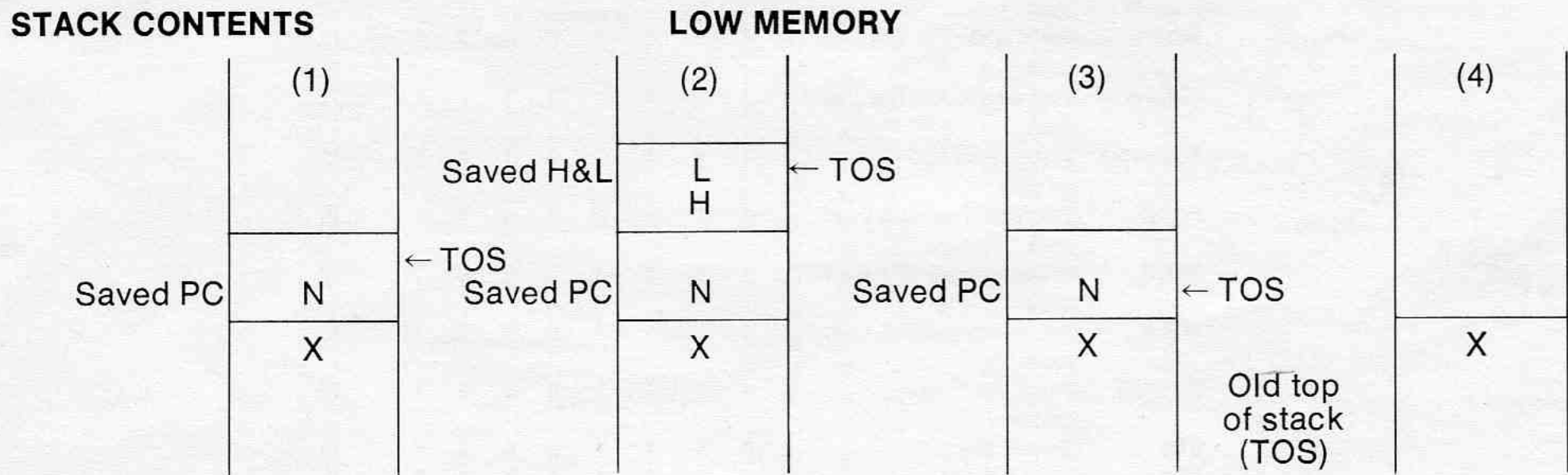


8080 MICROPROCESSOR

4. HOW TO USE THE PUSHDOWN STACK

Addr.	Location	PC Contents	SP Contents	
N - 1	INSTR. N - 1	N	SP	← (INTERRUPT ARRIVES HERE)
N	INSTR. N			Restart instruction inserted here
N + 1	INSTR. N + 1		---- (1) SP - 2	Save PC value N in stack using restart instruction to jump to S.
SUBROUTINE FOR HANDLING INTERRUPT				
S	PUSH H	S + 1	---- (2) SP - 4	Save HL in stack if desired
:	EI			Enable further interrupts if desired.
:				
S + n	POP H	S + n + 1	---- (3) SP - 2	Restore HL from stack
S + n + 1	RET	N	---- (4) SP	Return PC from stack



NOTE: The user can initialize the stack point SP register with a LXI SP instruction to use any section of read-write memory as a stack. The SP is decremented when data is pushed onto the stack, and incremented when data is popped (that is the stack "grows downward").

