

### Intel 8085 Hex Opcodes

|     |           | -0         | -1          | -2       | -3          | -4       | -5       | -6         | -7         | -8       | -9          | -A       | -B          | -C       | -D       | -E        | -F         |
|-----|-----------|------------|-------------|----------|-------------|----------|----------|------------|------------|----------|-------------|----------|-------------|----------|----------|-----------|------------|
| 0   | <b>0-</b> | <b>NOP</b> | LXI B, i16  | STAX B   | INX B       | INR B    | DCR B    | MVI B, i8  | RLC        |          | DAD B       | LDAX B   | DCX B       | INR C    | DCR C    | MVI C, i8 | RRC        |
| 16  | <b>1-</b> |            | LXI D, i16  | STAX D   | INX D       | INR D    | DCR D    | MVI D, i8  | RAL        |          | DAD D       | LDAX D   | DCX D       | INR E    | DCR E    | MVI E, i8 | RAR        |
| 32  | <b>2-</b> | <b>RIM</b> | LXI H, i16  | SHLD a16 | INX H       | INR H    | DCR H    | MVI H, i8  | <b>DAA</b> |          | DAD H       | LHLD a16 | DCX H       | INR L    | DCR L    | MVI L, i8 | <b>CMA</b> |
| 48  | <b>3-</b> | <b>SIM</b> | LXI SP, i16 | STA a16  | INX SP      | INR M    | DCR M    | MVI M, i8  | <b>STC</b> |          | DAD SP      | LDA a16  | DCX SP      | INR A    | DCR A    | MVI A, i8 | <b>CMC</b> |
| 64  | <b>4-</b> | MOV B, B   | MOV B, C    | MOV B, D | MOV B, E    | MOV B, H | MOV B, L | MOV B, M   | MOV B, A   | MOV C, B | MOV C, C    | MOV C, D | MOV C, E    | MOV C, H | MOV C, L | MOV C, M  | MOV C, A   |
| 80  | <b>5-</b> | MOV D, B   | MOV D, C    | MOV D, D | MOV D, E    | MOV D, H | MOV D, L | MOV D, M   | MOV D, A   | MOV E, B | MOV E, C    | MOV E, D | MOV E, E    | MOV E, H | MOV E, L | MOV E, M  | MOV E, A   |
| 96  | <b>6-</b> | MOV H, B   | MOV H, C    | MOV H, D | MOV H, E    | MOV H, H | MOV H, L | MOV H, M   | MOV H, A   | MOV L, B | MOV L, C    | MOV L, D | MOV L, E    | MOV L, H | MOV L, L | MOV L, M  | MOV L, A   |
| 112 | <b>7-</b> | MOV M, B   | MOV M, C    | MOV M, D | MOV M, E    | MOV M, H | MOV M, L | <b>HLT</b> | MOV M, A   | MOV A, B | MOV A, C    | MOV A, D | MOV A, E    | MOV A, H | MOV A, L | MOV A, M  | MOV A, A   |
| 128 | <b>8-</b> | ADD B      | ADD C       | ADD D    | ADD E       | ADD H    | ADD L    | ADD M      | ADD A      | ADC B    | ADC C       | ADC D    | ADC E       | ADC H    | ADC L    | ADC M     | ADC A      |
| 144 | <b>9-</b> | SUB B      | SUB C       | SUB D    | SUB E       | SUB H    | SUB L    | SUB M      | SUB A      | SBB B    | SBB C       | SBB D    | SBB E       | SBB H    | SBB L    | SBB M     | SBB A      |
| 160 | <b>A-</b> | ANA B      | ANA C       | ANA D    | ANA E       | ANA H    | ANA L    | ANA M      | ANAA       | XRS B    | XRS C       | XRS D    | XRS E       | XRS H    | XRS L    | XRS M     | XRS A      |
| 176 | <b>B-</b> | ORA B      | ORA C       | ORA D    | ORA E       | ORA H    | ORA L    | ORA M      | ORAA       | CMP B    | CMP C       | CMP D    | CMP E       | CMP H    | CMP L    | CMP M     | CMP A      |
| 192 | <b>C-</b> | RNZ        | POP B       | JNZ a16  | JMP a16     | CNZ      | PUSH B   | ADI i8     | RST 0      | RZ       | RET         | JZ a16   |             | CZ a16   | CALL a16 | ACI i8    | RST 1      |
| 208 | <b>D-</b> | RNC        | POP D       | JNC a16  | OUT i8      | CNC      | PUSH D   | SUI i8     | RST 2      | RC       |             | JC a16   | IN i8       | CC a16   |          | SBI i8    | RST 3      |
| 224 | <b>E-</b> | RPO        | POP H       | JPO a16  | <b>XTHL</b> | CPO      | PUSH H   | ANI i8     | RST 4      | RPE      | <b>PCHL</b> | JPE a16  | <b>XCHG</b> | CPE a16  |          | XRI i8    | RST 5      |
| 240 | <b>F-</b> | RP         | POP PSW     | JP a16   | <b>DI</b>   | CP       | PUSH PSW | ORI i8     | RST 6      | RM       | <b>SPHL</b> | JM a16   | <b>EI</b>   | CM a16   |          | CPI i8    | RST 7      |

Hints

**CMA** – complement accumulator  
**DAD** – add register pair to HL  
**DAA** Encode accumulator into BCD

**SIM/RIM** – set/reset interrupt mask  
**STC/CMC** Set carry, complement carry

**XTHL** Exchange top of stack with HL  
**XCHG** Exchange DE and HL