Instructions fall into several broad categories that you should be familiar with:

- Data movement.
- Arithmetic.
- Boolean.
- Bit manipulation.
- I/O.
- Control transfer.
- Special purpose.

5.3.1 Data Movement

- MOVE
- LOAD
- STORE
- PUSH
- POP

5.3.2 Arithmetic Operations

- ADI – add integer
- ADR – add real
- SBI – subtract Integer
- SBR – subtract real
- INC – increment
- DEC – decrement
- NGI – negate integer
- NGR – negate real

5.3.3 Boolean Logic Operations

- NOT
- AND
- OR
- XOR

5.3.4 Bit Manipulation Instructions

- SRL – shift right logical
- SRA – shift right arithmetic
- SLL – shift left logical
- RR – rotate right
- RL – rotate left

5.3.5 Input/Output Instructions

- In
- Out

5.3.6 Instructions that Transfer Control

- UJP – unconditional jump
- FJP – false jump
- JEQ – jump equal

- JNE – jump not equal
- JLS – jump less than
- IJP – indexed jump

5.3.7 Special-Purpose Instructions

- Protection
- Flag control
- Word/btye conversion
- Cache management
- Address calculation
- No-op.

5.3.8 Instruction Set Orthogonality

- Each instruction should perform a unique operation without duplicating any other instruction.
- Instructions must be consistent. For example, orthogonality is determined by the degree to which addressing modes are uniformly and consistently available on operands.