# Registers

- Provided by the microarchitecture, but some registers are visible to the ISA
- General purpose registers
    - Available for the program to use
    - Temporary arithmetic results, etc
- Special purpose registers
    - Have specific uses related to execution
    - The Mic-1 registers are all special purpose and are not visible to the ISA

# Instructions

- Categories
    - LOAD and STORE - moving data between memory and registers
    - MOVE - copy data between registers
    - Arithmetic
    - Boolean
    - Compare and branch (jump to a label)

# Data types

- Different ISAs support different data types
- Unsupported types must be managed in software using the supported types
- Main categories

    - Signed integers
    - Unsigned integers
    - Floating point
    - Binary coded decimal integers
    - Strings

# Instruction formats

- Every instruction has an opcode, which identifies which type of instruction it is
- Instructions may also contain addresses of operands
- In some ISAs all instructions are the same length, in others they vary in length
    - Expanding opcodes