Computer Systems - CPU

Registers:

Registers are high-speed memory locations inside the CPU.

They are used for the things the CPU is currently doing.

They are expensive - which is why there aren’t many of them.

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Registers:

Some registers are “general purpose” - they can be used for a variety of tasks

Others are specialised:

- program counter
- memory address register
- memory data register

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Program counter holds the memory address of the **next** instruction

Memory Address Register stores **current** instruction

Memory Data Register stores any data currently being transferred

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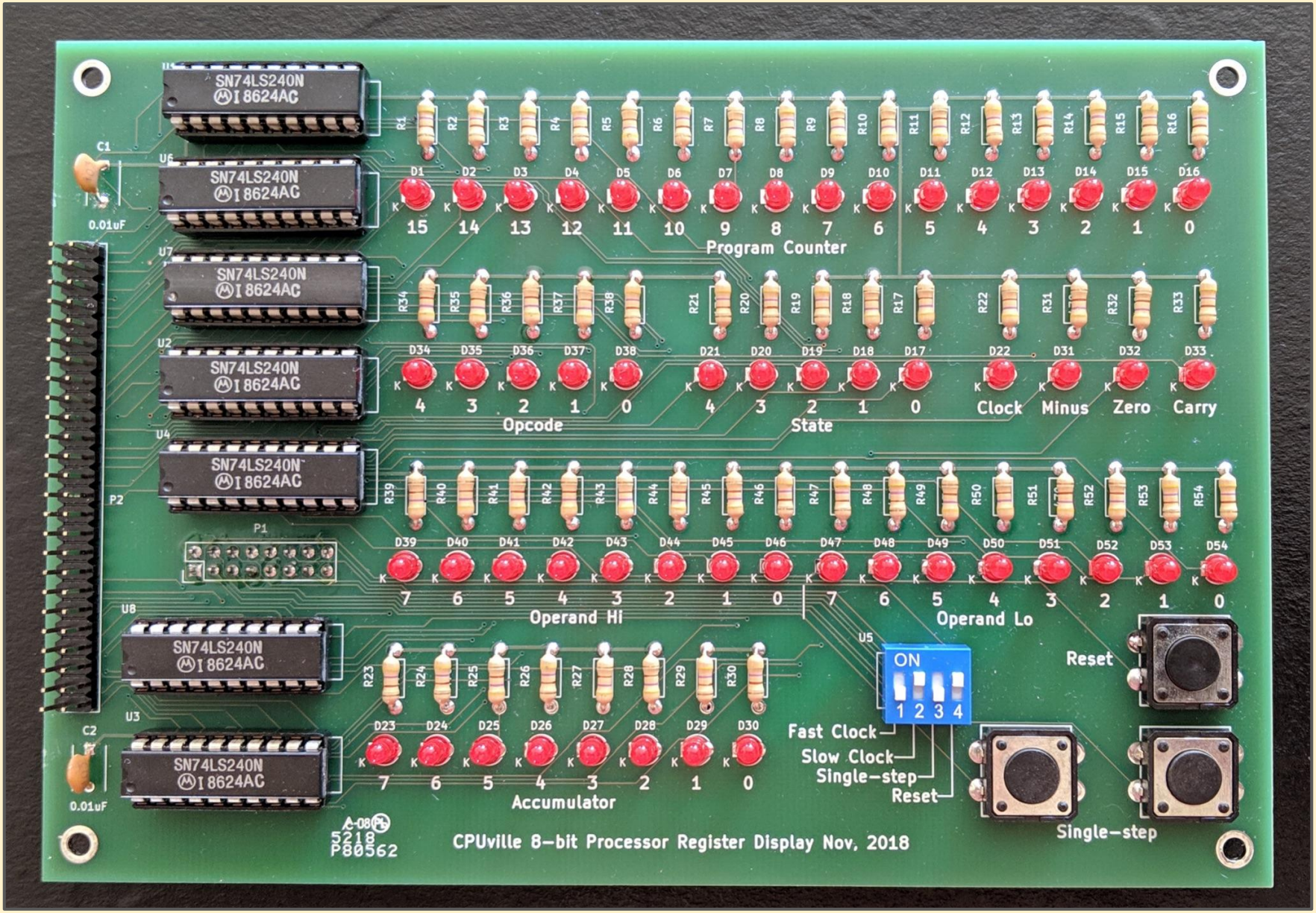
LOOP:

1. Copy the instruction in the address stored in the PC to the MAR
2. Move the PC on to the next address
3. Control Unit decodes the next instruction (Data might be moved into the MDR)
4. Use the ALU to process data in the MDR
5. Store the answer in a register

Send any data finished with back to RAM



This is not a full sized set of registers! It's a register display kit to enable the workings of a CPU to be modelled