

# Ram module (8-bit)

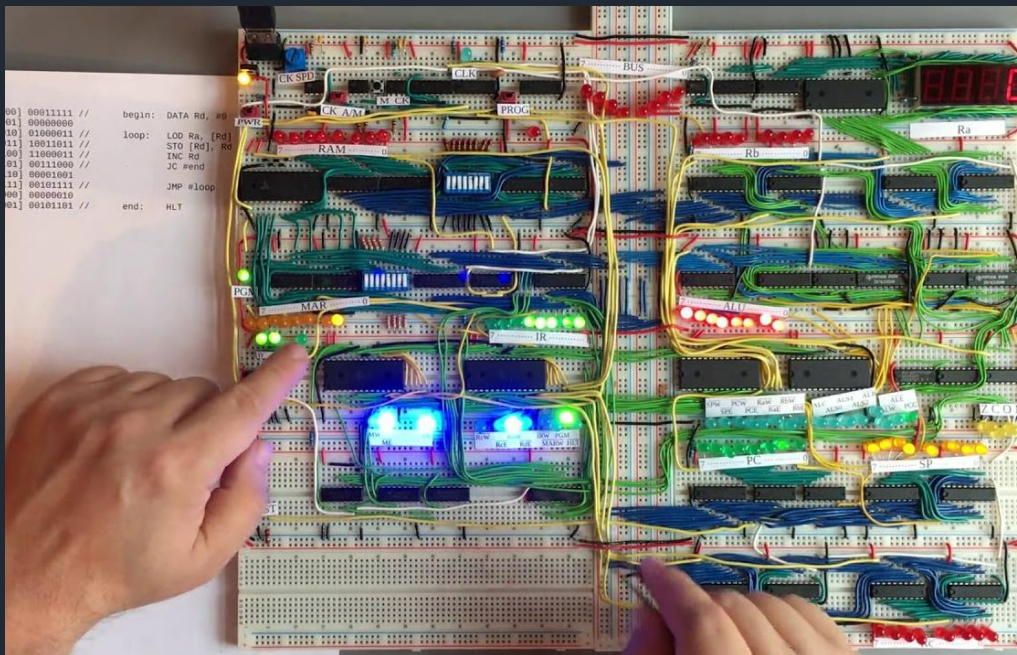
## GROUP MEMBERS:

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## FEATURES:

- 32-bit random access memory
- On breadboard
- Has a ALU associated with it which will perform simple (8bit) operations of addition, subtraction, and all comparison operators (equal, greater, lesser)
- Features a enable data output option and A Memory address register
- Each memory cell has real time visuals representing the bits being stored



## MATERIALS USED:

- 6 Breadboards GL-12
- 45 ics
- 50-meter data lines
- 50 leds+ 50 resistors 500ohms
- Has a 6v, 4A VC power supply
- 7475 ics (d-latch)

How to use ram?

- We input values at data lines
- And select the memory address where the value has to be stored, one may have to use memory address register to choose the memory address to store value
- We can perform these calculations in our ram module
  - $A+b;$
  - $A+=10;$
  - `Int a;`
  - `Char a;`
  - `If(a==b);`
  - `If(a>b);`
  - `If(a<b);`
  - $A+256;$
  - $A++;$
  - `Float a;`
  - $-A;$
  - And 20 more...
- To transfer values from ram into alu unit we have to choose the memory location to transfer the memory into alu unit through parallel universal data lines
- Values transferred will be accepted first into accumulator a and b
- Later we will perform some calculations with the bits and can allow the value to be stored into memory again



our progress pictures...

