

T34 Emulator

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1 Functions

1. `chunks(list, n)`

Used by `displayMemRange` to split a list into sublists of a certain size. Returns the list of sublists.

2. `void displayMem(loc)`

Takes in an address location and prints out the corresponding memory value at that location.

Ex: 200

3. `void displayMemRange(start, end)`

Takes in a beginning and ending address and displays them with at most 8 memory locations per row. Prints out from `[start, end)`.

Ex: 200.20F

4. `void editMem(loc, newMem)`

Takes in a starting memory location and new memory values starting at that location.

Ex: 300: A9 04 85 07 A0 00 84 06 A9 A0 91 06 C8 D0 FB E6 07

5. `void runProg(loc)`

Takes in an address location for where to start running the program. Fetches the opcode from that address, and executes it. Keeps interpreting instructions at the program counter until the break/interrupt flag is set.

Ex: 200R

6. `value set_bit(value, bit)`

Takes in an integer and a bit location. Returns the integer with the bit at that location set to a 1.

Ex: `set_bit(0000, 3) = 0100`

7. `value clear_bit(value, bit)`
Takes in an integer and a bit location. Returns the integer with the bit at that location set to a 0.
8. `value check_bit(value, bit)`
Takes in an integer and a bit location. Returns true if that bit is a 1, false if it is a 0.
9. `void interpret()`
Interprets instruction starting at the current program counter. Prints out operand, instruction name, addressing mode, operands, x and y register, accumulator, stack pointer, and status register after completing each instruction.
10. `void file_input()`
Handles input from object file if supplied. Validates file integrity using checksum involving address, byte count, and record type. Only accepts records of type 00 and 01.
11. `main()`
Calls `file_input`, then handles input from the monitor. Calls appropriate function based on command input from the monitor.

2 Running Program

Program is run from command line using python3.

Ex: `python3 ./t34.py code2_2.obj`

Ex: `python3 ./t34.py test1.obj`

Ex: `python3 ./t34.py`