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CSC 317

Computer Organization and Architecture

Program 1

Accumulator.py is the script that emulates a simple accumulator-style architecture. Run from command line ([ ] is optional parameter):

Usage: .\python.exe .\T34Emulator.py [object file]

Functions:

main() – Beginning of program. Handles command line arguments and starting the monitor

loadObj(filename) – Loads an object file. Stores data in memory at specified address. Returns the memory. Tests included giving it no file, invalid file, and valid file.

monitor(data) – Starts the emulator, giving the user access to program functions.

showAddr(data, address) – Displays the hex digit pair (byte) at the specified memory location. Tests included giving the function an address and confirming that the data was indeed correct

showRange(data, address) – Displays the content of a range of memory addresses. Tests included specifying a range in bounds and confirming it's correct, specifying a range out of bounds and returning an error message.

editMem(data, address) – Allows the user to edit data at a specified memory address. Tests included entering over empty data, overwriting data, and printing out that the data was saved.

runAtAddr(address) – Sets program counter to specified address and starts the execution of instructions at that location. No testing needed for this function at this time.

All sample output for this part of the program has been tested and results are correct.