D5700_Instruction

+ parts: Array<int>

Singleton: Emulator

- cpu: Cpu
- ram: Memory
- rom: Memory
- display: Display

+ run()
+ setRam(address:int, value:int)
+ getRam(address:int): int
+ readRom(address:int): int
+ setDisplay(height:int, width:int, newValue:char)
+ shutdown()

Abstract: Instruction

+ parts: Array<int>

Register

- sizeInBits: int
+ data: int
  private set

+ setRegister(newValue:int)

Abstract: Cpu

- speed: int
+ bytesPerCycle:int
- registers: map<Register>

+ executeInstruction(instruction:int)
# parseInstructionParts(): Instruction
# performOperation(instruction: Instruction)
# updateState(instruction: Instruction)

Abstract: Memory

- sizeInBytes: int
data: array<int>

+ abstract: read(address:Int): Int
+ abstract: write(address: Int, value: Int)

Abstract: Display

- height: int
- width: int
- frameBuffer: array<T>

+ abstract: setPixel(height:int, width:int, newValue: T)
+ abstract: render()

D5700_CPU

- speed: int
- bytesPerCycle: int
- registers: map<Register>

+ executeInstruction(instruction:int)
- parseInstructionParts(): D5700_Instruction
- performOperation(instruction: D5700_Instruction)
- updateState(instruction: D5700_Instruction)

D5700_RAM

- sizeInBytes: int
- data: array<int>

+ read(address: Int): Int
+ write(address: Int, value: Int)

D5700_ROM

- sizeInBytes: int
- data: array<int>

+ read(address: Int): Int
+ write(address: Int, value: Int)

D5700_Display

- height: int
- width: int
- frameBuffer: array<char>

+ setPixel(height:int, width:int, newValue: char)
+ render()