ctrl-6502

A C-based MOS 6502 Emulator

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1: System Background

A. Major Components

i. Logic Emulation:

□ Goal: accurately emulate MOS 6502 logic, input, output, data processing, instructions

□ 151 legal opcodes. Illegal opcodes currently are NOP \*(1)\*

ii. Hardware Emulation:

B. Standard Memory Map

|  |  |  |  |
| --- | --- | --- | --- |
| **Section** | **Address Range** | **Width** | **Usage** |
| Zero Page | *$0000 - $00FF* | **256 B** | **Reserved** |
|  | *$0000 - $000F* | **16 B** | **Local variables, function arguments** |
|  | *$0010 - $00FF* | **240 B** | **Global variables, pointer tables** |
| Stack | *$0100 - $01FF* | **256 B** | **Reserved** |
|  | *$0100 - $019F* | 160 B | Nametable data to be copied during VBLANK |
|  | *$01A0 - $01FF* | 96 B | Stack memory |
| Other internal RAM | *$0200 - $07FF* | **1,536 B = 1.5 KB** | **Global and system data, variables** |
|  | *$0200 - $00FF* | 256 B | OAM data to be copied during VBLANK |
|  | *$0300 - $00FF* | 256 B | Sound player and other variables |
|  | *$0400 - $07FF* | 1024 B = 1 KB | Arrays, global variables that are used less often |

C. Binary/Machine Code File Format (.ctr)