VM8051 User Guide

Luk Bettale

Introduction

VM8051 is a virtual machine that simulates a 8051 CPU. The software is composed of a library `lib8051`, and an interactive program that allows to execute a 8051 program step by step.

Using `vm8051`

VM8051 can be launched by command line. The HEX input file has to be specified as first argument. The `-m` option instructs the VM to show only minimal information about the state (only registers and CPU related SFRs).

```
vm8051 [-m] input.hex
```

Main commands

The following commands are available:

s	**S**tep instruction (step into call/jump)
q	**Q**uit
p	**P**rint state (do nothing)
r	**R**eset virtual machine
b *address*	**B**reakpoint at *address*
d *address*	**D**elete breakpoint at *address*
j *address*	**J**ump to *address*
k	**K**ill (skip) next instruction
n	**N**ext instruction in the code (skip call/jump)
g *address*	**G**o to *address* (run code), stop at breakpoints
c	**C**ontinue (run code), stop at breakpoints
w *ncy*	**W**ait *ncy* cycles (run code), stop at breakpoints
e *opcode*	**E**xecute instruction (*opcode*)
i	**I**data dump
f	S**F**R dump
x *n*	**X**data dump (*n*-th page)