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TCSS372

Problem 4 Diagram

The only difference noted when comparing registers was the difference in IR after TRAP calls due to how our simulator simulates traps with a simple method call, whereas the book simulator calls a TRAP routine. The values provided below were for personal use to confirm that the other registers were the same in both simulators.

|  |  |  |
| --- | --- | --- |
| PC Value | Book LC3 Simulator | SCL3 Simulator |
| x3000 | R1<-x301c  CC<-P | R1<-x301c  CC<-P |
| x3001 | R0<-x3031 | R0<-x3031 |
| x3002 | R7<-x3003 | R7<-x3003 |
| x3003 | R0<-x004a  R7<-x3004 | R0<-x004a  R7<-x3004 |
| x3004 | R7<-x3005 | R7<-x3005 |
| x3005 | MEM[x301c]<-x004a | MEM[x301c]<-x004a |
| x3006 | R1<-x301d | R1<-x301d |
| x3007 | R0<-x0040 | R0<-x0040 |
| x3003 | R0<-x0061  R7<-x3004 | R0<-x0061  R7<-x3004 |
| x3004 | R7<-x3005 | R7<-x3005 |
| x3005 | MEM[x301d]<-x0061 | MEM[x301d]<-x0061 |
| x3006 | R1<-x301d | R1<-x301d |
| x3007 | R0<-x0057 | R0<-x0057 |
| x3003 | R0<-x006e  R7<-x3004 | R0<-x006e  R7<-x3004 |
| x3004 | R7<-x3005 | R7<-x3005 |
| x3005 | MEM[x301e]<-x006e | MEM[x301e]<-x006e |
| x3006 | R1<-x301d | R1<-x301d |
| x3007 | R0<-x0064 | R0<-x0064 |
| x3003 | R0<-x0065  R7<-x3004 | R0<-x0065  R7<-x3004 |
| x3004 | R7<-x3005 | R7<-x3005 |
| x3005 | MEM[x301f]<-x0065 | MEM[x301f]<-x0065 |
| x3006 | R1<-x3020 | R1<-x3020 |
| x3007 | R0<-x005B | R0<-x005B |
| x3003 | R0<-x000A  R7<-x3004 | R0<-x000A  R7<-x3004 |
| x3004 | R7<-x3005 | R7<-x3005 |
| x3005 | MEM[x3020]<-x000a | MEM[x3020]<-x000a |
| x3006 | R1<-x3021 | R1<-x3021 |
| x3007 | R0<-x0000  CC<-Z | R0<-x0000  CC<-Z |
| x3009 | R1<-x3020 | R1<-x3020 |
| x300a | MEM[x3020]<-x0000 | MEM[x3020]<-x0000 |
| x300b | R1<-x301c | R1<-x301c |
| x300c | R2<-xfffd | R2<-xfffd |
| x300d | R3<-x3098 | R3<-x3098 |
| x300e | R7<-x300f  PC<-x3098 | R7<-x300f  PC<-x3098 |
| x3098 | CC<-Z | CC<-Z |
| x3099 | R0<-x301c  CC<-P | R0<-x301c  CC<-P |
| x309a | MEM[x30a5]<-x3098 | MEM[x30a5]<-x3098 |
| x309b | R3<-x004a | R3<-x004a |
| x309d | R3<-x0047 | R3<-x0047 |
| x309e | MEM[x301c]<-x0047 | MEM[x301c]<-x0047 |
| x309f | R0<-x301d | R0<-x301d |
| x309b | R3<-x0061 | R3<-x0061 |
| x309d | R3<-x005e | R3<-x005e |
| x309e | MEM[x301d]<-x005e | MEM[x301d]<-x005e |
| x309f | R0<-x301e | R0<-x301e |
| x309b | R3<-x006e | R3<-x006e |
| x309d | R3<-x006b | R3<-x006b |
| x309e | MEM[x301e]<-x006b | MEM[x301e]<-x006b |
| x309f | R0<-x301f | R0<-x301f |
| x309b | R3<-x0065 | R3<-x0065 |
| x309d | R3<-x0062 | R3<-x0062 |
| x309e | MEM[x301f]<-x0062 | MEM[x301f]<-x0062 |
| x309f | R0<-x3020 | R0<-x3020 |
| x30a0 | R3<-x0000  CC<-Z | R3<-x0000  CC<-Z |
| x30a1 | R0<-x0000 | R0<-x0000 |
| x30a2 | R0<-x301c  CC<-P | R0<-x301c  CC<-P |
| x30a3 | R3<-x3098 | R3<-x3098 |
| x30a4 | PC<-300f | PC<-300f |
| x300f | R1<-xcfe3  CC<-N | R1<-xcfe3  CC<-N |
| x3010 | R1<-xcfe4 | R1<-xcfe4 |
| x3011 | R1<x0000  CC<-Z | R1<x0000  CC<-Z |
| x3012 | R1<-x3050  CC<-P | R1<-x3050  CC<-P |
| x3014 | R7<-x3015 | R7<-x3015 |
| x3015 | R0<-x0061  R7<-x3016 | R0<-x0061  R7<-x3016 |
| x3016 | R0<-x301c | R0<-x301c |
| x3017 | R7<-x3018 | R7<-x3018 |
| x301b | R7<-x301c | R7<-x301c |