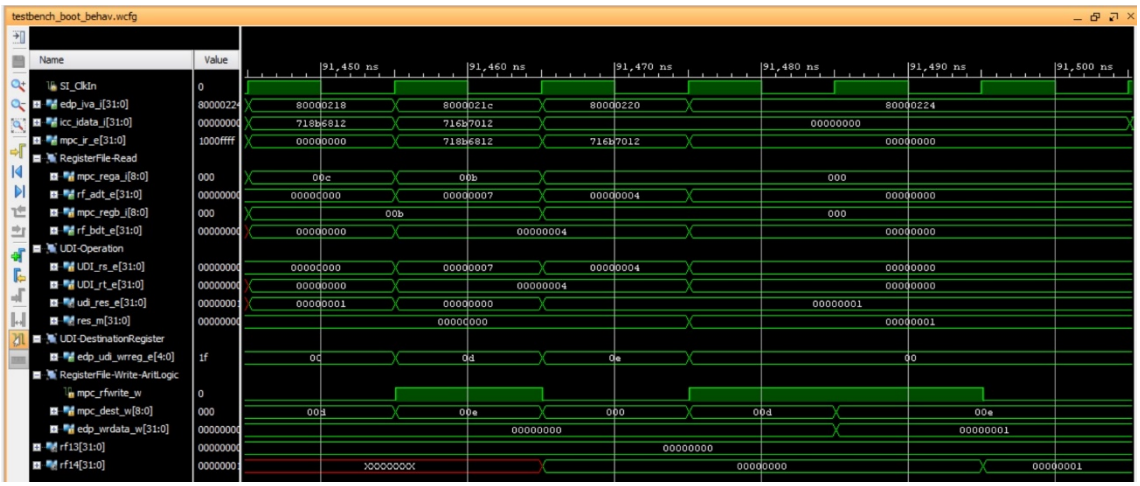
1. Simulation

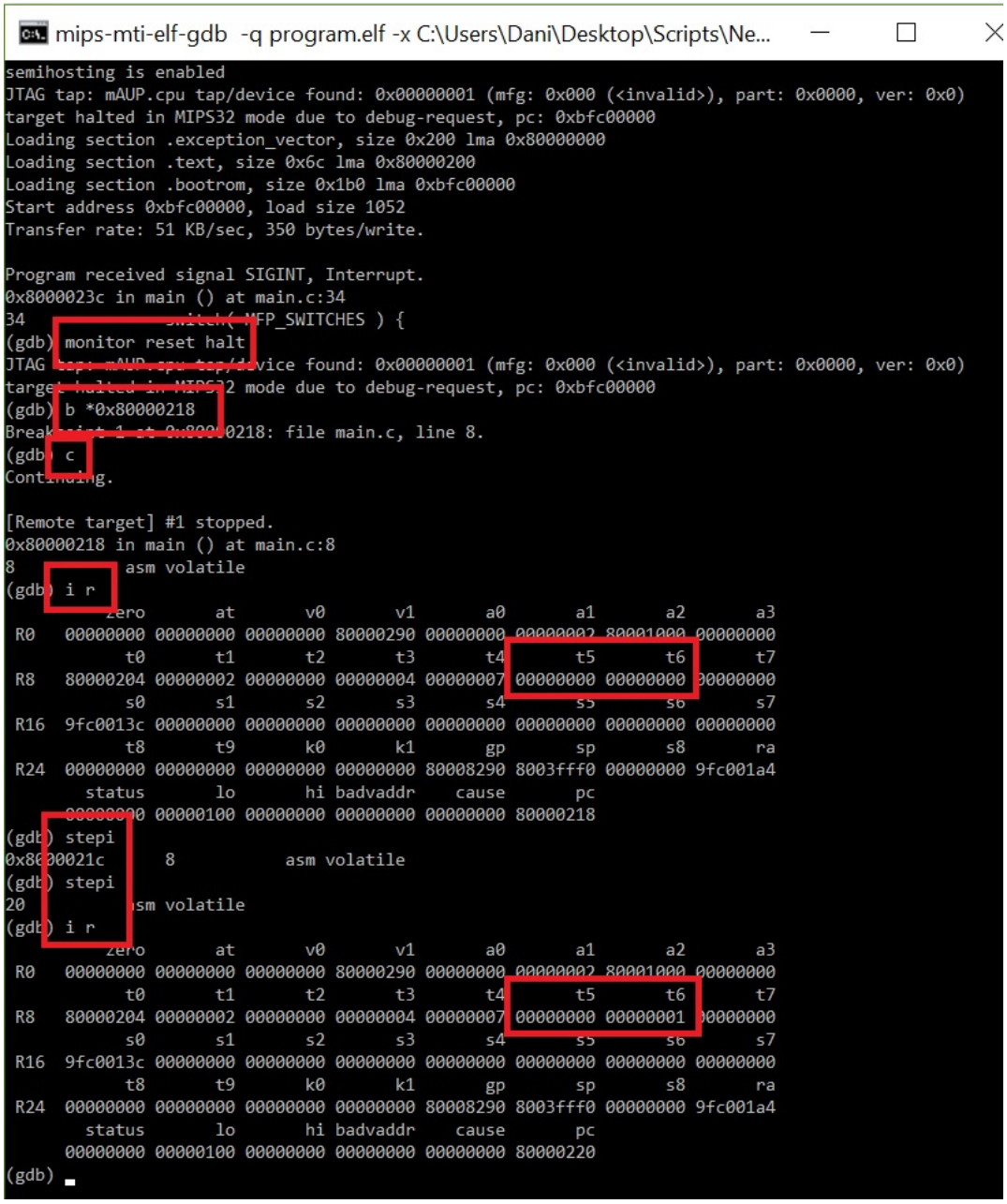


2. Implementation on the board

When the program is downloaded on the board, you should see on the 7-seg displays:

- Switches=0 → 7-seg displays=$t5, which in our example is 0x0
- Switches=1 → 7-seg displays=$t6 which in our example is 0x1
- Any other value for the switches → 7-seg displays=0x0

Then, when you debug the program following the steps stated in the document, you should observe the following:


mips-mti-elf-gdb -q program.elf -x C:\Users\Dani\Desktop\Scripts\Ne...
semihosting is enabled
JTAG tap: mAUP.cpu tap/device found: 0x00000001 (mfg: 0x000 (<invalid>), part: 0x0000, ver: 0x0)
target halted in MIPS32 mode due to debug-request, pc: 0xbfc00000
Loading section .exception_vector, size 0x200 lma 0x80000000
Loading section .text, size 0x6c lma 0x80000200
Loading section .bootrom, size 0x1b0 lma 0xbfc00000
Start address 0xbfc00000, load size 1052
Transfer rate: 51 KB/sec, 350 bytes/write.
Program received signal SIGINT, Interrupt.
0x8000023c in main () at main.c:34
34 switch(MFP_SWITCHES) {
(gdb) monitor reset halt
JTAG tap: mAUP.cpu tap/device found: 0x00000001 (mfg: 0x000 (<invalid>), part: 0x0000, ver: 0x0)
target halted in MIPS32 mode due to debug-request, pc: 0xbfc00000
(gdb) b *0x80000218
Breakpoint 1 at 0x80000218: file main.c, line 8.
(gdb) c
Continuing.
[Remote target] #1 stopped.
0x80000218 in main () at main.c:8
8 asm volatile
(gdb) i r
zero at v0 v1 a0 a1 a2 a3
R0 00000000 00000000 00000000 80000290 00000000 00000002 80001000 00000000
t0 t1 t2 t3 t4 t5 t6 t7
R8 80000204 00000002 00000000 00000004 00000007 00000000 00000000 00000000
s0 s1 s2 s3 s4 s5 s6 s7
R16 9fc0013c 00000000 00000000 00000000 00000000 00000000 00000000 00000000
t8 t9 k0 k1 gp sp s8 ra
R24 00000000 00000000 00000000 00000000 80008290 8003fff0 00000000 9fc001a4
status lo hi badvaddr cause pc
00000000 00000100 00000000 00000000 00000000 80000218
(gdb) stepi
0x8000021c 8 asm volatile
(gdb) stepi
20 asm volatile
(gdb) i r
zero at v0 v1 a0 a1 a2 a3
R0 00000000 00000000 00000000 80000290 00000000 00000002 80001000 00000000
t0 t1 t2 t3 t4 t5 t6 t7
R8 80000204 00000002 00000000 00000004 00000007 00000000 00000001 00000000
s0 s1 s2 s3 s4 s5 s6 s7
R16 9fc0013c 00000000 00000000 00000000 00000000 00000000 00000000 00000000
t8 t9 k0 k1 gp sp s8 ra
R24 00000000 00000000 00000000 00000000 80008290 8003fff0 00000000 9fc001a4
status lo hi badvaddr cause pc
00000000 00000100 00000000 00000000 00000000 80000220
(gdb)