Lab 2 Report

CMPEN 331

Imad Shaikh

02/08/2026

• When you run the previous program, what is printed?

The sum from 0 .. 100 is :338350:

• What is the value in register $t7 (in decimal) when the program ends?

$t7 = 0x00002710

0x2710 = 10000

The value in register $t7 is 10000

• Set a breakpoint for the instruction at line 13 of the assembler source code. Run the program again; it should stop at the breakpoint. Now execute that one instruction. Which registers have changed as a result of executing that one instruction? You might need to continue past the breakpoint several times to see what's going on. Note that P&H COD Appendix A.10 has descriptions of all the instructions, but you can't just look up the answer. (You should look up the instructions in App. A.10, but the answer requires you to pull together several different pieces of information, not just one.)

Before instruction:

- $t6 = 0 (loop variable i)
- $t8 = 0 (current sum)
- $t7 = 0
- pc = 0x00400014

After:

- The program counter advances to 0x00400018
- $t7 remains 0 because 0 * 0 = 0
- hi and lo remain unchanged

The only thing that changed is the program counter.

After running it a couple of times:

- $t6 increments by 1
- $t7 changes for i * i
- $t8 accumulates the running sum
- Pc changes every instruction