

EE 2310 Worksheet #5 – Basic SPIM Programming – Solutions

Name: _____ Student Number: _____

Given the MIPS register data, data declaration, and data memory dump in hex below, answer the following questions. **NOTE: Changes to a register or memory location made in one problem do not carry to any other problem.**

MIPS Registers

R0 (r0): 0x00000000	R8 (t0): 0x0f0f0f0f	R16 (s0): 0x00000000	R24 (t8): 0x00000000
R1 (at): 0x10010000	R9 (t1): 0x0000ffff	R17 (s1): 0x00000000	R25 (t9): 0x00000000
R2 (v0): 0x0000000b	R10 (t2): 0x00000000	R18 (s2): 0x00000058	R26 (k0): 0x00000000
R3 (v1): 0x00000000	R11 (t3): 0x10010020	R19 (s3): 0x00000000	R27 (k1): 0x00000000
R4 (a0): 0x00000058	R12 (t4): 0x100100f0	R20 (s4): 0x00400020	R28 (gp): 0x10008000
R5 (a1): 0x10010010	R13 (t5): 0x10010030	R21 (s5): 0x00000000	R29 (sp): 0x7ffffeff0
R6 (a2): 0x0000000c	R14 (t6): 0x80000080	R22 (s6): 0x800c1001	R30 (fp): 0x00000000
R7 (a3): 0x00000010	R15 (t7): 0xffff0000	R23 (s7): 0x00000050	R31 (ra): 0x00400070

1. After: `add $t2, $t4, $t3`; what are the contents of \$t2? _____.
2. After: `and $t2, $t0, $sp`; what are the contents of \$t2? _____.
3. After: `li $v0, 1, syscall`; what appears on the SPIM console? _____.
4. In the space provided at the left, write a program to OR \$t0 and \$t4, storing the result in \$t2. Then add the contents of \$t2, \$t7 and \$a3, storing the results in \$t8. Subtract the numerical contents of \$s7 from \$t8, storing the result in \$t9, then print the contents of \$t9 to the console. Finish by doing a syscall 10.

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.text
main:
```