

Problem 2.8

2882400018

Problem 2.16

r-type, sub \$v1, \$v1, \$v0, 0x00621822

Problem 2.18

2.18.1

The opcode would be 8 bits and the rs, rt, and rd fields would be 7 bits each

2.18.1

The opcode would be 8 bits and only the rs, and rt fields would be 7 bits each

2.18.3

More registers would create less register spills and thus less instructions. However, at the same time if there are more registers, there would be more bits per instruction which would cause an increase in code size.

More instructions lead to a more appropriate instructions which would decrease the code size. However, more instructions also could mean larger opcodes which would thus lead to a larger code size.

Problem 2.25

2.25.1

i-type

2.25.2

addi \$t2, \$t2, -1

beq \$t2, 0, loop