1. ISAs
    a. ----------
        i. CISC
        ii. RISC
        iii. RISC
        iv. RISC
        v. dCISC
        vi. RISC
    b. ----------Where would we find this information?--
        i. Micro
        ii. ISA
        iii. ISA
        iv. ISA
        v. ISA, ABI
        vi. ISA
        vii. ISA
        viii. Micro
        ix. Micro
        x. Micro, ABI
        xi. ISA
        xii. Micro, ABI
2. MIPS
    a. SGI Indigo, using MIPS R3000
    Sony PlayStation, also using MIPS R3000
    NEC Cenju-4, using MIPS R10000
    Tesla Model S, using MIPS I-class CPU
    b. Mips, due to its three operand instructions, has many alternatives to mov
    Li $1, $2
    Add $1, $2, $0
    Sub $1, $2, $0
    c. This program uses xors to swap the values in the two registers

d.

```
# Start program
addi $s0, $zero, 0      # s0 is a
addi $s1, $zero, 3      # s1 is b
addi $s2, $zero, 4      # s2 is c
addi $s3, $zero, 9      # s3 is d


sll $t0, $s1, 1         #Shift b left by 1 bits, effectively multiplying it by 2
srl $t1, $s2, 2         #Shift c right by 2 bits, effectively dividing it by 4
and $t2, $s3, 7         #And last three bits of d, effectively modding it by 8

#Add all parts together
add $s0, $t0, $t1
add $s0, $s0, $t2

addi $a0, $s0, 0        #Load a into reg $a0 to be printed
li $v0, 1               #Set next syscall to print
syscall

# Exit program
li $v0, 10              #Set next syscall to exit
syscall
```

3. MARS
    a. Mars simulates the ISA and the microarchitecture
    b. With specified inputs, returned output
        i. 5, 6, 7, 8 : 26
        ii. 5, 6, 7, 9 : 27
        iii. 4, 6, 7, 8 : 25

    This program adds together all inputs and outputs the result.